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PROGRESS

REPORT

AGRICULTURE

HELMAND VALLEY

INDUSTRY

TRANSPORTATION

A.I.D.
Reference Center
Room 1656 NS

January 1, 1960

Royal Government of Afghanistan
United States Operations Mission
to Afghanistan

EDUCATION

PUBLIC
ADMINISTRATION

A.I.D. HISTORICAL AND
TECHNICAL REFERENCE
ROOM 1656 NS

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PREFACE

The Royal Government of Afghanistan and the Government of the United States of America have undertaken to cooperate with each other in the development and utilization of technical knowledge and skills and related activities to contribute to the development of the Afghan economy.

At the end of 1959, there were twenty-seven active technical and economic cooperation projects in which the two Governments were jointly participating. These activities are centered principally in education, transportation, agriculture, public administration and Helmand Valley development.

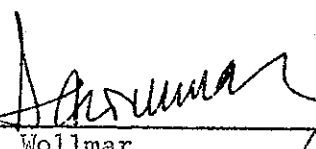
This Project Progress Report reviews each of the projects as of the end of 1959--its goals, accomplishments during the calendar year 1959, the reasonable expectations of the project, the problems, and financial data. An introduction summarizes activities before 1959, along with current projects.

In addition to project activities, the U. S. International Cooperation Administration has provided agricultural commodities, the services of consultants, and other assistance. These are summarized briefly. Because so many of the ICA projects in Afghanistan are carried on under contract with private firms and universities, a list of such contractors and the length of the current contract period is also included in the report.

This is the second year that a Project Progress Report has been prepared by the United States Operations Mission to Afghanistan. In each year the Royal Government of Afghanistan contributed to the preparation of the documents.

For the most part, the project reports in this publication have been prepared jointly by the Afghan Project Directors and the ICA Project Technicians and have been reviewed by appropriate Afghan Ministries. This is the second publication in 1960, revising a limited edition published March 31 to allow for a more thorough review by Afghan officials.

Reports of this type are planned as a regular feature of ICA operations in Afghanistan to keep all interested persons informed of the status of economic cooperation between the two Governments.


Stellan C. Wollmar
Director, USOM/A

June 30, 1960

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INTRODUCTION

United States aid to Afghanistan under the Mutual Security Program began in 1951. Since that time, loans and grant obligations as of December 31, 1959 have totaled about \$148,000,000. Assistance under the International Cooperation Administration and its predecessor organization has totaled, in terms of obligations about \$85,700,000 of which \$10,750,000 was in the form of loans. Additional loans amounting to \$39,500,000 were extended to Afghanistan by the Export Import Bank for the development of the Helmand Valley. Other assistance in the form of shipments to Afghanistan of surplus wheat, totaled \$22,800,000. (See Chart 1)

MUTUAL SECURITY PROGRAM FY 1955 - 1960

The bulk of ICA assistance has been extended since FY 1955. Special Assistance has accounted for about 80% of the total. This assistance has been directed primarily at overcoming transport difficulties; whereas Technical Cooperation is concerned with improving local skills. (See Chart 2)

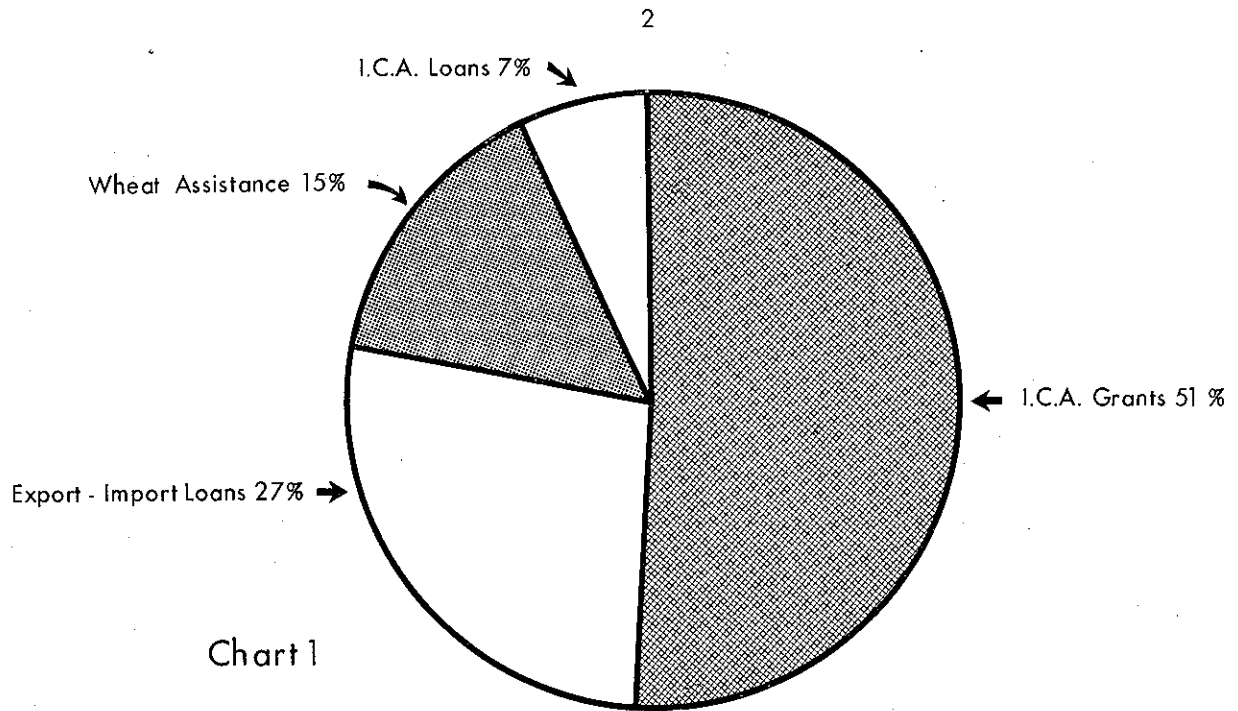
Most of the Special Assistance funds have been devoted to projects concerned with basic essentials, which the country needs for further economic development such as roads, irrigation facilities, electrical power, mining, and education facilities.

Technical Cooperation, on the other hand, utilizes the services of technicians who, in cooperation with Afghan counterparts, undertake training and demonstration activities. Through this cooperative method modern "technical know-how" is imparted to the people most directly concerned. This form of aid is particularly effective in the agricultural industry where production is often hampered by outdated methods as well as lack of modern machinery, etc. In other fields, such as education, public administration, and mining, technical cooperation funds are also the principal source of U.S. assistance.

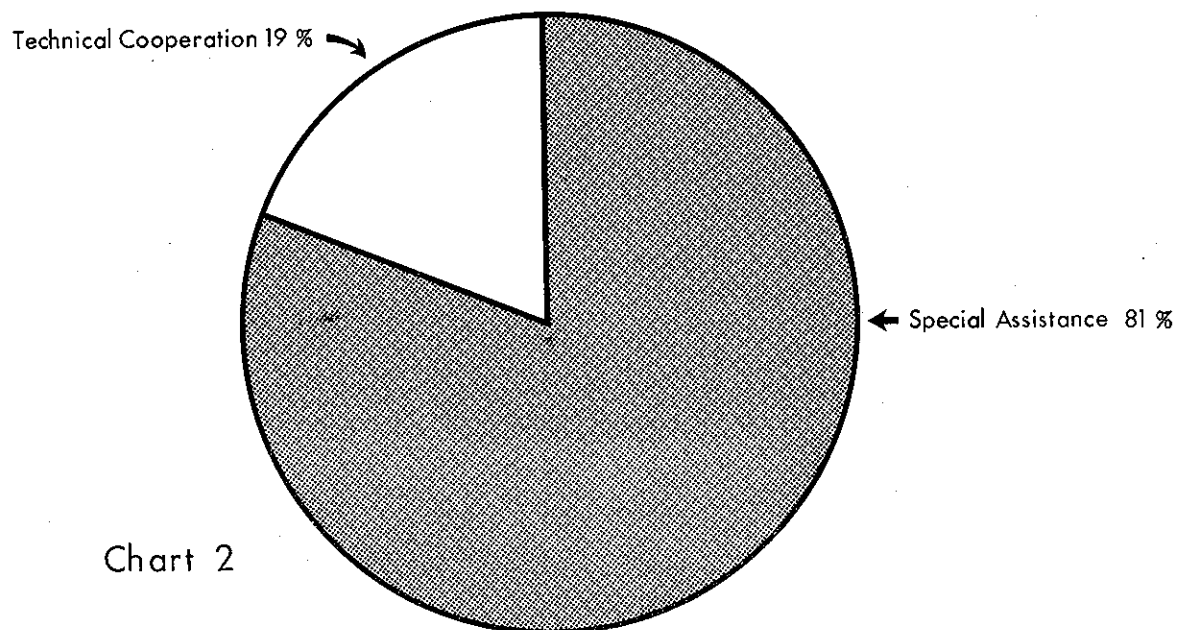
Thus, while Special Assistance looms largest in the dollar expenditure, it does not mean that it is necessarily of the greater importance. Dollar assistance in the form of Technical Cooperation may have the more lasting result.

CONTRIBUTION OF AFGHANISTAN

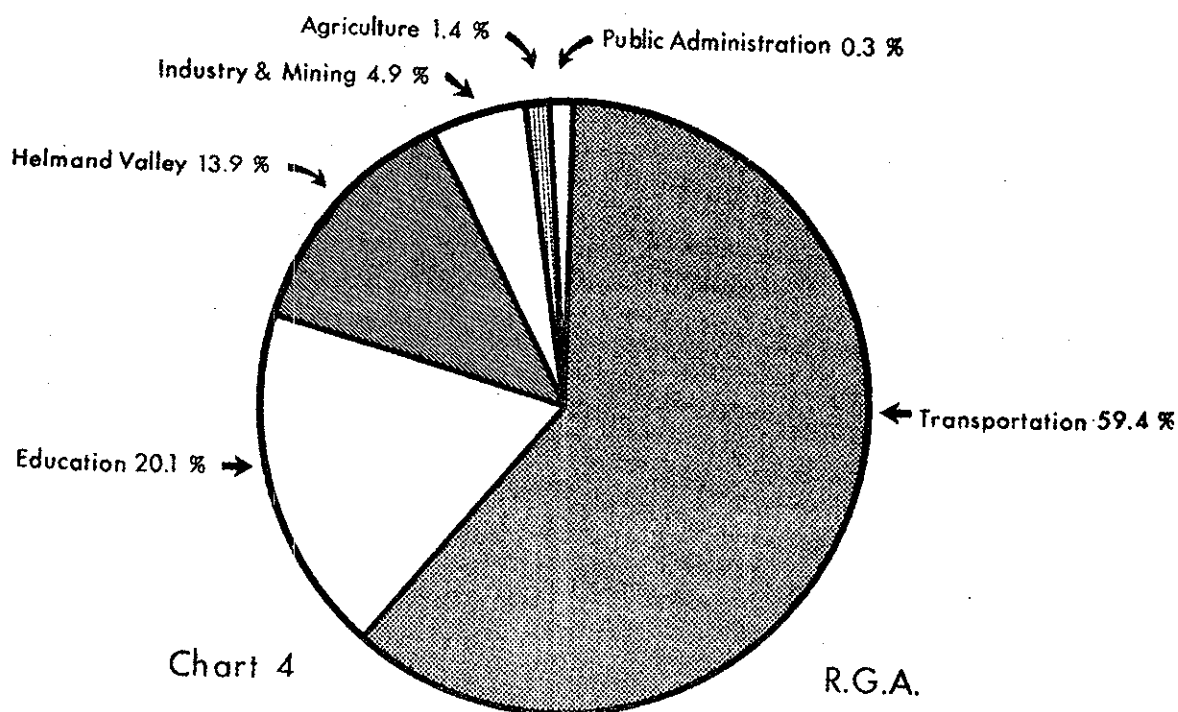
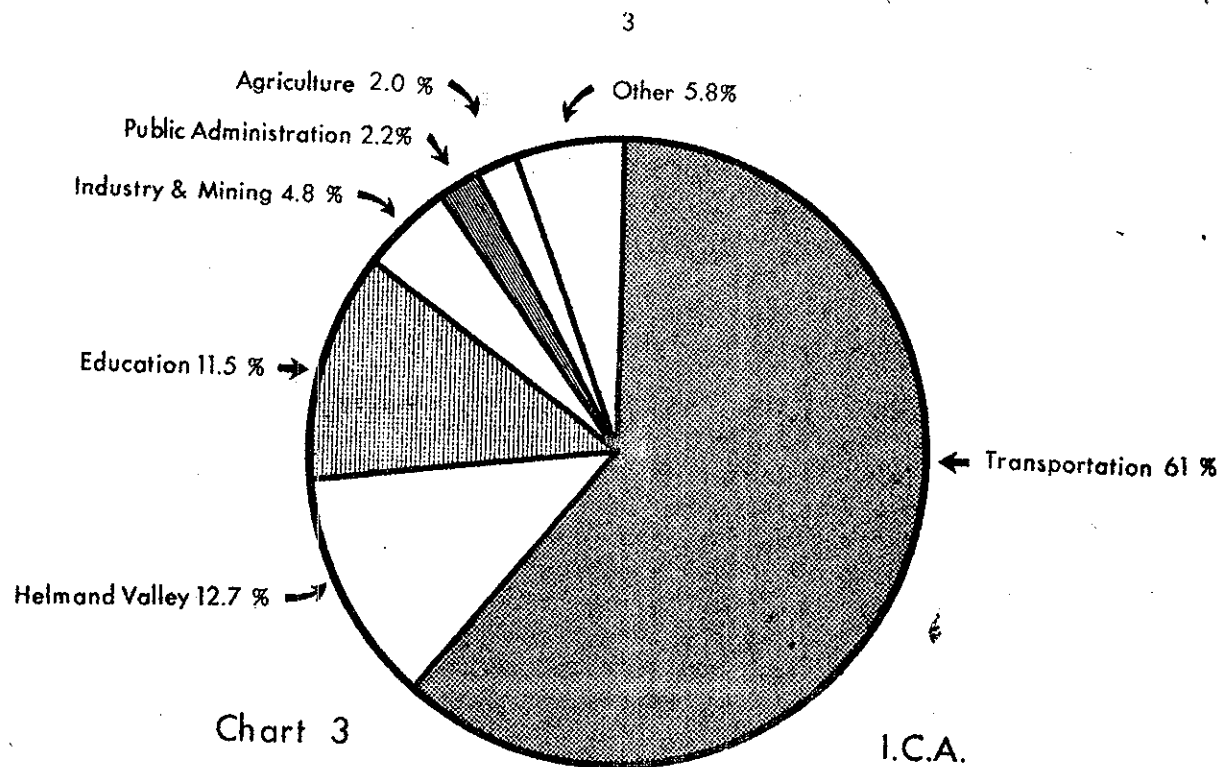
Additionally, the Royal Government of Afghanistan has participated actively in these developmental projects to such an extent that they are truly joint ventures. During the five year period, FY 1956-60, the RGA obligated over 600 million afghanis as its own contribution to ICA supported technical cooperative and special assistance projects. This is indeed a considerable sum when considered in the light of Afghanistan's own national domestic revenues which have been, on the average, about 1,500 million afghanis per year during the period.



U.S. Assistance To Afghanistan F Y 1950 To December 31, 1959



U.S. Aid To Afghanistan F Y 1955- 1960



Distributions Of U.S And R.G.A. Contributions To Joint Development Projects
F Y 1956-1960

DISTRIBUTION OF OBLIGATIONS

Afghani expenditures are used to defray the cost of local materials, salaries of counterparts, technician support costs, local labor, and other similar expenses involved in the projects. In general, they are distributed in much the same manner as the ICA dollars. (See Chart 3) The only significant difference is the larger proportion in education due to the recently incurred heavy obligation of afghanis for the construction of Kabul University.

The largest share of total dollar obligations (56%) during the past 5 years has been devoted to two projects, Air Transportation Development (306-37-036) and Afghan Regional Transit (451-39-025). About 46% of total RCA contributions or obligations have likewise been for these two projects. The emphasis of both ICA and RCA obligations in the transportation field is, in effect, the recognition of the importance to Afghanistan of adequate transport facilities. The Air Transportation Development project is the older of the two, having begun in 1956, and involves the construction of Kandahar International Airport as well as domestic airports at Herat, Kunduz and Jalalabad. At the same time, it provides for further development of Ariana Afghan Airlines, an Afghan airways system and the training of personnel required by the Air Authority in order that it may better serve Afghanistan with a sound, commercial airline system. In a country devoid of railroads and possessing only the minimum of adequate roads, air transportation is the quickest means of providing for both the movement of freight and passengers. The International Airport at Kandahar, scheduled for completion by June 30, 1962, will permit the largest of international airlines to serve the country. Thus the towering mountains of Afghanistan will no longer prove to be the age old obstacle to transportation either domestic or international.

The Afghan Regional Transit project which has thusfar only begun will require a large share of ICA and RCA obligations. This project involves the rebuilding of the road from Kabul to Kandahar, a distance of over 500 kilometers, and a railroad extension from Wish to a point 97 kilometers east of Kandahar, and the paving of the highway from Wish to Kandahar. Thus when this and the other road project (306-31-039), which involves the paving of the Kabul-Torkham road, are complete, Afghanistan will be served from the south and east by a modern road system which will move heavy goods into and out of the country supplementing the fast movement of light goods by air.

It is impossible to overestimate the value of a modern transportation system to the country. Hitherto, transportation of goods has been dependent largely upon animal caravans and trucks over winding trails and dirt roads. As a result, towns were urban islands isolated by rugged mountains. Both air and truck transport, therefore, are basic essentials to the overall development of the country. The swift movement in large quantity of both raw materials and finished goods, which good roads will make possible, will remove a major obstacle to the further economic development of the country.

The development of the Helmand Valley, is likewise of major importance to the economy. It will provide for improved land and water utilization in a large arid stretch of the country. Fundamentally, the projects involve the utilization of the waters of the Helmand River for irrigation and power purposes, but the entire plan of the Helmand Valley Authority encompasses the building of communities with schools, hospitals and other services. Modern agricultural techniques

with better crop and livestock strains are also included.

In the field of education, ICA and the RGA are cooperating in the construction of a new and modern Kabul University. The ultimate plan for the University, requiring a number of years for completion, envisions a modern campus with sufficient buildings to house all the facilities of a first-class university. All of Afghanistan's requirements for trained professional people will be met at this center of higher learning. Other educational facilities at a lower level than the University are by no means neglected. Teacher training is of prime importance in the educational projects. Vocational Agriculture, the Afghan Institute of Technology, and Habibia College also receive developmental assistance from ICA and the RGA.

In Agriculture, technical cooperation involves very many aspects, all of which are aimed at increasing agricultural production, Afghanistan's principal source of income. Since only about 14% of Afghanistan's total land area is arable and another 5% is suitable for pasture, it is imperative that this land be utilized as wisely and as efficiently as possible. However, much of the soil is worn out by excessive and inefficient cropping over the centuries and requires modern agricultural techniques involving the use of fertilizers, irrigation and modern equipment. These require long and careful education of farmers through demonstration methods, and in this area technical cooperation serves its best purpose.

Finally, in Public Administration, technical cooperation is also most effective. New and efficient methods of tax collection and national budget and accounting techniques are essential to the successful growth and development of the country and its government.

A special feature of U.S.-RGA cooperation is the emphasis placed upon acquisition of skills, education, and training. The RGA has long considered education to be of the highest importance in its development program, especially in view of the small (10%) literacy rate. Emphasis upon on-the-job training in the ICA construction projects, the support of special technical training programs, participant training abroad, and the interim provision of American teachers receive considerable emphasis in the ICA program. Through all the joint efforts in transportation, the development of agricultural and mineral resources, improved educational facilities, and the imparting of skills and knowledge, the Afghan people can look forward to a future full of hope and promise.

AGRICULTURE

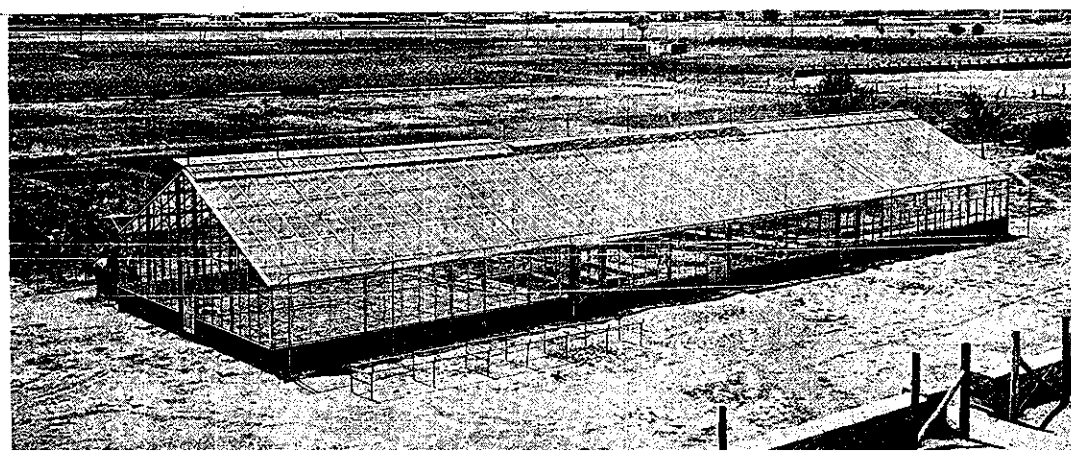


UPPER LEFT -- This Afghan farmer is well pleased with his American Hybrid corn.

ABOVE -- American rooster was supplied to this youngster for improving his local poultry flock.

LEFT -- American extension advisor in the Helmand Valley and Afghan extension worker discuss with a farmer the proper care of his orchard.

BELOW -- The Central Research Station located in Kabul.



NATIONAL AGRICULTURE DEVELOPMENT

Project 306-11-002

Ministry of Agriculture

Project Director: H.F. Ghulam Haider Adelat
Project Technician: Mr. Reed H. Lewis

INTRODUCTION

Rationale

Agriculture is the bulwark of the Afghan economy. The vast majority of the people are engaged in agricultural pursuits, from which the country derives three-fourths of its income and most of its foreign exchange earnings. Only about five per cent of the land is arable, however, and much of this small area lies idle each year. Afghan agriculture is hampered by a host of problems, such as low soil fertility, inadequate irrigation water, primitive farming methods, poor seed, plant diseases and insects, absence of agricultural credit, uneconomic breeds of livestock, and low crop yields. This technical assistance project is directed toward helping to find solutions to these problems.

Project Description

Technical assistance was first extended to the Ministry of Agriculture by ICA under the terms of a project agreement, titled National Agriculture Development, Project 306-11-002, dated June 28, 1954. The project is a continuing one and the project agreement has been extended annually. In FY's 1958 and 1959, the project was amended to include agricultural assistance to the Helmand Valley Authority, in addition to the Ministry of Agriculture. Because these RCA agencies operate independently as distinct and separate organizations, the combined project was unwieldy. In FY 60, therefore, separate project agreements have been executed. Each agreement is broken down into subprojects, of which there are seven with the Ministry of Agriculture and six with the Helmand Valley Authority. Separation of the two organizational phases of technical assistance in agriculture will be completed in FY 61, when the present project will revert solely to the Ministry of Agriculture and a new project, Agricultural Development - Helmand Valley, 306-12-060, will be initiated with the Helmand Valley Authority.

ICA-financed technical assistance began in the Ministry of Agriculture with the establishment of a research center in Kabul in 1954. Aid was expanded later to include forestry, plant protection, and agricultural extension, and, at the close of 1959, involved the following subprojects:

1. Agricultural Extension
2. Irrigation
3. Forestry and Soil Conservation
4. Plant Protection
5. Agricultural Research
6. Agricultural Machinery and Small Tools
7. Agricultural Credit

In addition to the foregoing subproject activities, the project includes operational and organizational aid to the Ministry and its technical divisions. The entire project is geared to the reorganization of the Ministry now taking place.

Report Format

In order to properly evaluate progress by project activities, separate reports have been prepared on each subproject. This cover report is therefore generalized, and more detailed information is given in the subproject reports.

PROJECT GOALS

- A. Assist in the reorganization and strengthening of the technical and administrative divisions of the Ministry of Agriculture.
- B. Develop a national agriculture extension service.
- C. Improve the supply and utilization of water in small irrigation systems.
- D. Develop a national forestry and soil conservation program.
- E. Implement an effective plant protection program.
- F. Continue agricultural research (including livestock and soils), varietal testing, and related experimentation.
- G. Establish an agricultural machinery workshop and develop agricultural hand tools.
- H. Assist in developing a workable agricultural credit organization and establish pilot credit projects.

ACCOMPLISHMENTS DURING CALENDAR YEAR 1959

In the winter of 1958-59, agricultural technicians of USOM/A, together with United Nations FAO technicians, assisted the Ministry of Agriculture in formulating a short-term agricultural development program. Later in 1959 the Ministry was assisted in planning a reorganization to better implement this program. As 1959 ended, a draft of an agreement between the Ministry and USOM/A for the provision of local currency, generated by the sale of surplus agricultural commodities under Public Law 480, Title II, to further support project activities was being prepared. This local currency agreement was expected to provide 27,052,000 afghanis during Calendar 1960, to be budgeted among seven subprojects.

Progress toward other project goals listed above is discussed in the following reports on the seven subprojects comprising this parent project.

FINANCIAL OBLIGATIONS

	<u>ICA</u>	<u>RGA</u> (Ministry of Agriculture)
To June 30, 1959	\$1,050,000	Afs 9,700,000
Planned from July 1, 1959 through June 30, 1960	273,500	2,142,000
Title II PL 480	<u>\$1,323,500</u>	<u>16,486,270*</u> 28,328,270

* And additional amounts during the balance of calendar year 1960

FY 1960
PLANNED OBLIGATIONS
by Subproject

	<u>ICA</u> \$	<u>RGA</u> Afs	<u>Title II PL 480</u> Afs
1. Agricultural Extension	52,200	2,196,000	420,000
2. Irrigation	4,500	3,818,270	252,000
3. Forestry & Soil Conservation	28,300	3,000,000	861,000
4. Plant Protection	24,800	1,172,000	336,000
5. Agricultural Research	74,000	5,000,000	210,000
6. Agricultural Machinery & Small Tools	22,200	900,000	63,000
7. Agricultural Credit	3,800	300,000	-
Agricultural Revolving Fund	-	100,000	-
Agricultural Div. & Admin.	63,700	-	-
Total	<u>273,500</u>	<u>16,486,270</u>	<u>2,142,000</u>

EXPENDITURES^{1/}

Cumulative to December 31, 1959

ICA	\$1,212,343
RGA	7,119,000 (est.) (Ministry of Agriculture and Helmand Valley Authority)

^{1/} No separate breakdown between the expenditures of the Ministry of Agriculture and the Helmand Valley Authority (as in Obligations) is possible; therefore RGA expenditures include those of both agencies.

WORK REMAINING

As concerns over-all reorganization and strengthening of the Ministry of Agriculture, much work remains to be done. A number of basic organizational changes have been made, but refinement of responsibilities and streamlining of operations are needed.

For each of the seven subprojects within the parent project, the work remaining to be done is discussed in the following reports.

PROBLEMS

Lack of trained Afghan technicians is a problem common to all project activities, and this shortage is also a limiting factor in the over-all functioning of the Ministry. Development of a modern agricultural program and adoption of improved agricultural practices call for a greatly expanded group of technicians.

The problems particularly affecting each project activity are discussed in the individual subproject reports.

Agricultural Extension - Ministry of Agriculture

Subproject I

INTRODUCTIONRationale

The principal long-term goal of agricultural extension is to increase agricultural production and to raise the living standards of the rural people. The extension service will eventually provide technical assistance to all of the provinces of Afghanistan. Emphasis will be placed on training an agricultural extension force. Aid to farmers will be provided as fast as extension workers become available.

Project Description and History

USOM/A participation in subproject activities began in April 1958 when one extension advisor was stationed in Kabul Province. It was not until December 1958 that agricultural extension was officially established in the Ministry of Agriculture. Agricultural extension work was originally carried out under a Director by the Department of Extension, Publicity, and Library. In July 1959, the Agricultural Extension Department was placed under a Director General and was given equal status to other departments of the Ministry. In addition to the Director General, an extension supervisor, a field assistant, an interpreter for the USOM/A advisor, and 10 extension workers have been added to the staff. Training sessions for extension workers are being conducted and demonstration plots are being established in villages. Agricultural extension workers who have received three years of training at the Vocational Agriculture School are being added to the staff, although the number of vocational school graduates is insufficient to fill the needs. Plans have been made to establish an agricultural extension training center at Kabul to help provide personnel and to expand the program to the Eastern Province.

PROJECT GOALS

The principal subproject goals are as follows:

- A. Establish and operate an efficient national extension service under the Ministry of Agriculture.
 - 1. Establish an agriculture extension training center in 1960.
 - 2. Expand the extension program in Kabul Province.
 - 3. Expand extension work to the Jalalabad and Herat areas by 1961.
- B. Develop diversified farming which tends toward a better balanced agriculture.
- C. Through extension activities supplement other agricultural enterprises.

D. Increase raw material for agricultural processing.

E. Provide a more favorable balance of international trade through increased output and better quality of agricultural products.

F. Disseminate proven research findings as widely as possible.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

The Ministry of Agriculture has been assisted in the establishment of an agricultural extension department. USOM/A has provided one extension advisor who has helped to establish agricultural extension in 12 villages in the Kabul area. A training course for extension workers was held in March 1959. Several field trips involving the entire extension force were conducted.

Research results at the Kabul station showed that Nebred wheat, which is rust resistant, yielded 25% more than the next highest yielding variety. Forty tons of this wheat were imported by ICA and distributed for seed multiplication purposes. Demonstration plots involving improved seed, commercial fertilizers, and alfalfa inoculation produced good results. The major demonstrations in 1959 were as follows:

Each of the 12 extension workers established five demonstration plots which will compare rust resistant wheat (Nebred and Cheyenne) with local varieties. This grain was planted in the fall of 1959.

Fifteen wheat demonstration plots, on which commercial fertilizers and manure in varying amounts were used, were harvested in July 1959. Fertilized plots showed increases in yields of from 28 to 64 percent over the unfertilized check plots. The net gain as a result of fertilizer application ranged from \$7.00 to \$10.82 per acre.

Plots of buffalo alfalfa, which showed a yield increase of 25% over local varieties at the research station, were planted at six of the villages.

Over 100 tubes of alfalfa inoculum were distributed by extension workers. Inoculating alfalfa with a superior strain of inoculum was a major part of the program in 1959. Local alfalfa specimens were taken from 150 scattered locations in Afghanistan. These specimens showed very few nodules.

Four hybrid corn plots of different varieties were planted. Commercial fertilizer was used on part of each plot. The acreage yield with nitrogen and phosphate fertilizer was 26.3% over the unfertilized check plots. The highest yielding variety with fertilizer produced 121.8 bushels per acre. Over 200 villagers, the extension workers, Ministry of Agriculture officials and USOM/A technicians visited the plots.

Other accomplishments of the extension service were assisting farmers with the dusting of grapes for powdery mildew in six villages. In addition, a total of 373 Rhode Island Red and New Hampshire cocks were sold to farmers. These purebred birds were produced by the Ministry of Agriculture with the assistance of the animal husbandry technician of the Wyoming Contract Team. Of the 373 cocks, 116 were sold to farmers by the extension service.

OBLIGATIONS AND EXPENDITURES

See cover project

WORK REMAINING

An agricultural extension training center is to be planned and established at Kabul. A tentative site has been selected and plans are in process. The total number of extension workers for the Kabul, Jalalabad, and Herat areas is to be increased from 40 to 100 by the end of 1962. An agricultural extension office in Jalalabad is to be established in 1960 and a similar office in Herat in 1962. In addition, many more demonstrations are needed involving fertilizers, diversified farming practices, better seed, improved water use, and better cultural practices. Extension must also participate actively in insect and disease control, marketing, and agricultural credit projects.

PROBLEMS

The following problems must be solved before speedy implementation of subproject goals may be accomplished:

1. Insufficient trained personnel.
2. Inadequate extension training facilities.
3. Lack of teaching aids and demonstration materials.
4. Insufficient transportation for extension workers.
5. Long delays in procuring extension equipment and materials.

Irrigation - Ministry of Agriculture

Subproject II

INTRODUCTIONRationale

A large portion of the agricultural land of Afghanistan is dependent on irrigation for production. Irrigation water supplies in many areas could be supplemented by tapping the generally good ground-water supplies.

Project Description

This is a pilot subproject designed to demonstrate more efficient water procurement and distribution systems and more efficient utilization of water in Kabul and adjoining provinces. There are numerous small irrigation systems in these areas that have been in operation for centuries. A large number of these systems were not planned for efficiency and have deteriorated, causing serious water shortages to some or all of the farms they serve. This situation affects the kinds of crops grown and the production. For example, some of these areas can raise only grain, normally considered in Afghanistan a low income crop under irrigation. This is a new project.

PROJECT GOALS

- A. Improve the distribution systems of small irrigation projects and make more water available for crop production.
- B. Assist with the development of an irrigation department within the Ministry of Agriculture.
- C. Provide on-the-job irrigation training to Ministry personnel. Work on the project will consist mostly of hand labor, utilizing principally local materials. Limited work will be done by power equipment (especially well-drilling rigs) where it is not practical to use hand labor alone. It is proposed that about 5,000 acres of an existing small project be selected as the first-year objective.

The project will have the following major aspects:

1. Surveying and laying out a workable irrigation system.
2. Relocation of canals and ditches where necessary.
3. Rehabilitation and construction of canals and structures.
4. Maintenance and operation of irrigation systems (by farmers).
5. Tapping ground-water supplies with wells.
6. Improved irrigation methods.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

This is a new project, and therefore, there have been no major accomplishments in the field. However, a site has been selected where an efficient irrigation system can be demonstrated on Ministry of Agriculture land near Kabul. Another area will be selected in the Jalalabad area where undeveloped land will be prepared for a modern, efficient irrigation system. Mapping of these areas will be started when survey crews have been organized. A USOM/A agricultural engineer, who arrived in January 1960, will divide his time between this subproject and the agricultural machinery and small tools subproject, although financed under the latter subproject.

OBLIGATIONS AND EXPENDITURES

See cover project

WORK REMAINING

With the exception of the preliminary activities described above under Accomplishments, all major activities for this subproject remained to be completed as of December 31, 1959.

PROBLEMS

The following problems must be overcome before the project can be fully implemented:

1. An adequate water supply must be assured for the success of the demonstration project near Kabul. The area selected for the demonstration project is accessible to a canal which will take water from Pargha reservoir when a dam is completed at that site. An extension of the canal must be made to carry the water to the proposed area.
2. A competent trained surveyor is badly needed to map the proposed areas and do other surveying and design work in connection with land leveling. Mechanics and drivers are also needed to operate and maintain the machinery to be used in the land leveling and irrigation system construction.
3. Only preliminary surveying and mapping work can be done until machinery and equipment has been secured from the United States. Only a small portion of the demonstration irrigation area can be completed in less than one year.

Forestry and Soil Conservation - Ministry of Agriculture

Subproject III

INTRODUCTIONRationale

Afghanistan is among the most timber-deficient countries of the world. Fuel, livestock fodder, and water support the rural economy. Supplies of all three, as well as those of food, can be expanded through the conservation of forest and range resources. Larger supplies of wood for fuel and industrial purposes would permit the use of manure and other vegetable matter for crop production and expanded timber utilization for commercial purposes. Much of the country is denuded or damaged by soil erosion and rangelands are badly over-grazed and otherwise abused. Water resources could be greatly improved through the application of proper forestry and soil conservation measures.

Project Description and History

Technical assistance under this subproject began in 1955 with the assignment of an ICA forester to help establish a forestry unit within the Ministry of Agriculture. Following a survey of forestry problems in the Kabul area and adjoining provinces, a forestry office was set up, but it was unable to function effectively for lack of trained personnel. No ICA technician was assigned from late 1956 until spring 1958, when another forestry advisor arrived. In the interim, the forestry unit was largely inactive. The first Afghan with forestry training returned from Iran in May 1958 and became head of a newly organized forestry and range management unit within the Ministry. Plans were developed for simple programs for forests, tree nurseries, tree planting, natural forest management, and forest insect and disease control. Reassignment of the forestry advisor as FY 1960 began, again curtailed project activity. In January 1960, however, another ICA forestry advisor was assigned to this subproject.

PROJECT GOALS

- A. Give technical and operational assistance to the Ministry of Agriculture in forestry, range management, and soil conservation.
- B. Develop a forestry field organization capable of handling the most urgent matters in these fields.
- C. Expand forest tree and range plant production in nurseries and develop adequate afforestation and range improvement programs.
- D. Reduce losses from tree diseases and insects.
- E. Guide the management and utilization of both planted and natural forests.
- F. Help to implement a demonstration soil and water conservation project in the Kabul area.

G. Support courses covering forestry, range management, and soil conservation in Kabul area schools.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

During 1959 limited progress was made toward achieving project goals. Major handicaps were the complete absence of trained Afghans other than the head of the forestry unit, the necessity for this unit head to spend considerable time outside the country or on non-project activities, and the reassignment of the ICA forestry advisor at mid-year.

An Afghan participant completed his junior year in an American forestry school and began his final year during 1959. Some field training of forestry staff members was accomplished and office organization was strengthened. Considerable progress was made in gaining public interest in forestry and soil conservation work, particularly in the Kabul area. Improved practices were introduced in several local forest tree nurseries and output of planting stock was expanded. No project work was done on protection from tree diseases and insects.

Preliminary surveys were made concerning a logging and sawmilling demonstration project in the government's virgin coniferous Mandahair Forest, Southern Province. At year's end, lists and specifications of equipment needed to initiate this and other project field activities were prepared. At the same time, sites for the soil and water conservation demonstration were examined in the Kabul area.

The forestry advisor taught a forestry, range management, and soil conservation course to juniors during the first semester at the Faculty of Agriculture and Engineering, Kabul University. Support was also given to the teaching of a general forestry course at the Vocational Agriculture School, Kabul.

OBLIGATIONS AND EXPENDITURES

See cover project

WORK REMAINING

Relatively little progress has been made toward attainment of project goals, hence a great deal of work remains to be done. A major job is the building up of an adequate office unit to plan an attainable forestry program, provide forestry leadership, assemble forestry statistics for the country, and begin the training of the already existent forestry field force. Nursery improvement work has barely begun and range improvements are not yet underway. A promising start has been made toward conservation of remaining natural forests, but little has been done to improve utilization of either planted or natural forests. Actual implementation of a soil and water conservation demonstration had not begun at year's end.

PROBLEMS

No phase of the Ministry of Agriculture's activities suffers as much from lack of trained technicians than the forestry and soil conservation work. Until more trained Afghan foresters are available to in turn train Ministry personnel, activities under this subproject will be greatly hampered. Another major problem is the severe shortage of forestry and soil conservation equipment and supplies. Only token quantities of such materials have been provided by ICA to date. Wholly inadequate transportation facilities have thus far seriously impeded field work. Planting stock of all kinds must be produced in vastly increased quantities if subproject goals are to be attained. Informational programs are needed, especially in the Kabul area and at provincial centers of government, to make the citizenry more conscious of forestry and soil conservation objectives.

Plant Protection - Ministry of Agriculture

Subproject IV

INTRODUCTIONRationale

The ravages of insects and diseases have traditionally hampered Afghan agriculture and have for the most part gone unchecked. Although of recent origin, the Ministry's Plant Protection Department has evolved steadily into an efficient though small organization. It has convinced Afghan officials and farmers that plant protection is one of the quickest and most rewarding means of increasing agricultural output.

Project Description and History

Activities under this subproject date from early 1955, when the Ministry of Agriculture requested assistance in plant protection training. Through special agreements between the Ministry, USOM/A and the ICA Regional Insect Control Project (RICP), aid in this field began with a 1955 survey of the country's insect control problems by an RICP entomologist. Another such entomologist was assigned to the subproject for two years beginning October 1956. He has not yet been replaced, so that technical assistance given during 1959 was confined to three visits by an entomologist from RICP headquarters in Beirut, together with some part-time help from other USOM/A agriculturists. During the 1957 and 1958 seasons, control programs, featuring demonstrations and training of Ministry personnel, were undertaken both around Kabul and in the outlying provinces. Although little technical assistance was extended in 1959, control activities were carried out on a fairly extensive scale. The Ministry's plant protection unit has been in operation for eight years, but only recently has it been able to develop a country-wide approach to this problem.

PROJECT GOALS

- A. Give technical and operational advice to the Ministry of Agriculture in plant protection.
- B. Provide or arrange training to increase the effectiveness of the plant protection staff.
- C. Aid provincial governments in the organization of plant protection forces.
- D. Demonstrate the use of efficient modern pesticides and equipment for their application.
- E. Provide specialized assistance and guidance in locust control activities.
- F. Consult with and aid HVA's plant protection organization.

G. Help develop effective liaison between plant protection, extension, and the Afghan farmers.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

Although good progress was made in plant protection work during 1959, very little of it was directly attributable to activities supported by this subproject. Inability to fill the RICP entomologist position accounts for this situation. Only during several emergencies were the services of an RICP entomologist made available for brief periods. Fairly large quantities of insecticides previously ordered from subproject funds were delivered during the year. Three participants began English language training as the year ended, preparatory to beginning entomology training abroad in 1960.

OBLIGATIONS AND EXPENDITURES

See cover project

WORK REMAINING

Future subproject work is to be concentrated on spreading plant protection programs throughout the country and building up the level of controls so that adequate crop protection results. This calls for a great expansion of training, both in-service and abroad, to develop the technical competence to properly direct such a program. A national locust control center is planned for Kabul. Mobile units held there should be capable of handling endemic outbreaks of locusts anywhere in the country. The center is planned to be organized so that large-scale help, as by RICP aerial spraying, could be integrated into its operations when outbreaks of epidemic proportions occur. Plant protection personnel need much more training in control methods, preferred pesticides, application methods, and extension of plant protection work to farmers.

PROBLEMS

Continuing delay in filling the vacant RICP entomologist post is the biggest deterrent to subproject activities. USOM/A is making every effort to overcome this problem.

Organized in-service training of field staff is an urgent problem, along with the need to greatly expand field operations.

Procurement of plant protection materials and development of adequate quarters are essential to the organization of a national locust control center in Kabul. Much new pest control material is also needed to properly equip the provincial organizations.

Better coordination is needed in passing plant protection knowledge on to farmers through the Ministry's extension service.

Agricultural Research - Ministry of Agriculture

Subproject V

INTRODUCTIONProject Description and Rationale

An agreement between the Ministry of Agriculture of the Royal Government of Afghanistan and ICA for technical and economic cooperation under Project 306-11-002, National Agriculture Development, was dated June 28, 1954, and subsequently continued. Research activities conducted under contract by the University of Wyoming Team at Kabul as part of this project have been designed to help the Ministry of Agriculture develop agricultural production to the point that the country becomes self-sustaining in the production of foodstuffs.

History

Since 1955 American technicians in the fields of agronomy, horticulture, irrigation, livestock, and soils have carried out experimental work at the central station. A set of modern machinery has been provided to carry on this work. American varieties of seeds (crops and vegetables) have been imported. One of the subproject highlights has been the construction of a modern greenhouse. This has enabled research workers to test vegetable varieties, produce many transplants for field testing, and to supply plants to the farmers of the area.

Considerable reorganization and improvement of the soils laboratory has been accomplished. It is now functioning as a service laboratory and soil analyses are being conducted for farmers.

U.S. breeds of poultry have been provided for cross-breeding and egg production. Research during the past three years has proven that poultry production can be increased by the feeding of cod liver oil coupled with better management practices. American breeds of roosters crossed with native hens have produced offspring much superior to the native breeds.

Nebred wheat over a four-year testing period at the Central Station has been the highest yielding variety, especially in years of heavy rust infestation. Buffalo alfalfa has also proven to be superior to other alfalfa varieties tested.

PROJECT GOALS

The goals of agricultural research are many and varied. They are to:

- A. Test local and imported varieties of agronomic and horticultural crops for adaptability and yield.
- B. Introduce crops not presently grown and test their adaptability as well as to increase those crops which have proven superior by seed production and vegetative propagation.

C. Develop irrigation techniques best suited to the area and to the needs of the local farmers.

D. Test the N-P-K soil requirements to determine the optimum amounts to use and the economic feasibility of commercial fertilizers and green manures in the production of field crops, vegetables, and fruits.

E. Construct vegetable and fruit storage units of locally procurable materials in order to lengthen the marketing season.

F. Increase poultry production by improvement of local breeds, importation of adapted foreign breeds, improved nutrition and management, and by disease control.

G. Increase dairy production by:

1. Selection of high producing local dairy stock and by the importation of foreign breeds.

2. Improving pastures, increasing feed production and better satisfying the nutritional requirements of dairy stock.

3. Working with the Ministry of Agriculture in developing a modern dairy production unit and retail outlet.

H. Train Afghans to perform research work in a creditable manner by training aides in research techniques and by sending participants abroad to study research methods.

I. Provide agricultural extension workers with proven research results to take to farmers as a part of their educational program.

ACCOMPLISHMENTS DURING CALENDAR YEAR 1959

Project research work during 1959 was confined to the Central Experiment Station at Ali Abad and to Bene Hissar. The proposed work was curtailed by staffing shortages during most of the year. An agronomist arrived in July and a research director and horticulturist in December.

Seventy varieties of winter wheat were harvested. The four highest producing ones were Egyptian, Aloudine No. 2, Nebred, and Blackhull. The first two-named varieties are local selections included in the replicated yield trials for the first time. Sixteen wheat varieties were planted in the spring wheat trials and thirteen of these were harvested. Mida and Lee produced the highest yields. One of the production hazards proved to be bird damage, especially to the awnless varieties. Frontier and Hanchen produced the greatest yields of the sixteen barley varieties tested. Over the past four years Hiland and Frontier, American varieties, have been the two top producers. Four cuttings were taken from seven varieties in the 1959 alfalfa trials. A shortage of water hampered establishment and the first replication was destroyed. Afghan, X47253, Buffalo, and Atlantic were the highest producers.

Eighteen varieties of corn were included in the 1959 trials. U.S. No. 13 was the highest producer of shelled corn, followed by Funks 026. Eto-Amarillo (Brazil), a very late variety, produced the greatest amount of fodder and the second highest was Hastings Yellow. U.S. 13 ranked sixth in this category.

The bean yields were low. The three highest producers were Red Mexican No. 34, Sutters Pink, and Red Mexican No. 3. Five-year results indicate that Red Mexican beans have the highest yield potential at Kabul. Seven varieties of sorghum planted were destroyed by cut worms. Sixteen varieties of perennial grasses were grown in increase plots. Their adaptability and production will be determined in succeeding years. About 150 varieties of vegetables were grown. Most were in replicated yield plots but yield data could not be considered reliable. Some 8,500 tomato, 5,200 cabbage, 3,400 pepper, and other transplants were produced in the greenhouse. Most of these were placed in field trials with interested farmers. Fertilizer test plots were established in the spring but due to unforeseen complications these were abandoned.

Forty tons of Nebred seed wheat and one and one-half tons each of Cheyenne and White Federation were imported and distributed to the farmers in Kabul Province for seed multiplication purposes. This was carried on cooperatively with the Extension Service of the Ministry of Agriculture. One ton of buffalo alfalfa was also procured and distributed in the same manner as the wheat.

There were 322 yearling chickens available for the poultry project at the beginning of the year. The breeds were White Rock, Rhode Island Red, and New Hampshire. The first setting of eggs from them was placed for incubation on February 7, and the last on September 6. There were 11,484 eggs placed and 5,198 chickens were hatched. The hatchability of the eggs in late season was very low. A total of 280 duck eggs were incubated and 30% of these hatched. During 1959 some poultry work was moved to Bene Hissar where new poultry houses were built by the Ministry. A pressure pump was purchased and the digging of a well to provide fresh clean water for the chickens was started. Equipment for the dairy and its retail outlet was selected and order lists prepared. Preliminary plans for the erection of the dairy buildings were made.

OBLIGATIONS AND EXPENDITURES

See cover project

WORK REMAINING

Continue testing introduced crop varieties, make selections of locally grown varieties, and increase the seed of those proven to have outstanding qualities.

Complete detailed dairy plans and obtain and install dairy equipment.

Complete chicken houses at Bene Hissar.

Establish and staff an experiment station at Jalalabad and establish a new permanent experiment station at Kabul, since present station will be lost in Kabul University expansion.

Construct a greenhouse at Jalalabad.

Complete construction of fruit and vegetable storage unit at Kabul.

Obtain and install heating plant in greenhouse at Kabul.

Conduct extensive soil studies in order to determine deficiencies and fertilizer requirements.

PROBLEMS

More technical personnel are needed to adequately staff the stations and to train local personnel. The counterparts and aides should be assigned and trained in such a manner as to become familiar with all aspects of station operations. Highly trained Afghan specialists must be developed in order that they may eventually direct the various phases of research work. Materials and equipment are generally obtained much later than is desirable. A means of expediting offshore procurement would materially benefit research activities.

Agricultural Machinery and Small Tools - Ministry of Agriculture

Subproject VI

INTRODUCTION

This subproject is designed to assure proper maintenance and operation of farm machinery and to introduce better tools to farmers. The Ministry of Agriculture recently established an Agricultural Machinery Division. Its principal functions are the operation and maintenance of agricultural equipment used on Ministry farms. In addition, this division is responsible for development and demonstration of animal-drawn machinery and small tools that will improve the operations of farmers. Farm tools are generally very primitive, consisting principally of wooden plows, crude wooden land levellers, shovels, and small sickles. A request for a U.S. technician and some commodities for demonstration was made during 1959 by the Ministry of Agriculture. A counterpart for this technician is presently functioning as head of the division.

PROJECT GOALS

- A. Establish an efficient Ministry maintenance and repair shop by FY 1963.
- B. Train mechanics and other personnel to assume responsibility after FY 1964.
- C. Develop and demonstrate small machinery and tools.
- D. Train Ministry personnel in the use and development of small agricultural implements through FY 1964.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

An agricultural machinery division has been established within the Ministry of Agriculture. A report was prepared during 1959 on the limited assistance given in the development of small machinery and hand tools by a member of the University of Wyoming contract team in the three years previous. The present head of the Ministry's Agricultural Machinery Division is attempting to maintain the machinery and implements now used by the Ministry.

A U.S. agricultural engineer (farm machinery) arrived in January 1960 and will divide his time between this subproject and the irrigation subproject during the balance of FY 1960.

OBLIGATIONS AND EXPENDITURES

See cover project

WORK REMAINING

With the exception of the preliminary activities described above under Accomplishments, all major activities for this subproject remained to be completed as of December 31, 1959

PROBLEMS

A place to do repairs and maintenance of farm machinery is not available. Money has been budgeted by the Ministry for constructing a new shop building. Until it is ready, a temporary location will be sought.

No trained mechanics are presently available to serve as a nucleus of personnel to start a training program.

It will not be practicable in its initial stages to overhaul major engine components in the farm machinery shop. Investigations are being made to see if the Ministry's Transportation Department will overhaul some units on a job basis.

A number of Polish and Czechoslovakian tractors and farm implements are now being used by the Ministry of Agriculture. No spare parts are on hand for these machines and instruction manuals are also lacking.

Agricultural Credit - Ministry of Agriculture

Subproject VII

INTRODUCTIONProject Description

At the request of the RGA, USOM/A brought in a top agricultural credit consultant. After approximately 1-1/2 months studying the credit situation, he submitted a report which recommended that U.S. and RGA controlled, RGA-titled afghanis (PL480, Title II) be placed in a revolving fund for providing credit to farmers and farmers' societies.

Due to insufficient trained personnel, agricultural credit is to be initially on a pilot project basis and confined to areas where agricultural extension has been established. The extension service will cooperate with the Agriculture and Cottage Industry Bank by giving technical assistance to farmers who receive loans. Loans are to be made "in kind" and are to be of short and intermediate term. USOM/A will provide an agricultural credit technician for at least two years who will assist the Agriculture and Cottage Industry Bank with reorganization, loan policies, and procedures.

History and Rationale

The Agriculture and Cottage Industry Bank was established in March 1954 for the purpose of making loans to farmers to improve and operate their farms, to finance farmers' associations, and to make loans for development of cottage industries. It was incorporated with authorized capital stock of 150 million afghanis, of which 85 million was subscribed and paid for by Da Afghanistan Bank on behalf of the Royal Government of Afghanistan. Subscriptions to stock by the public is authorized but private persons have not been interested in purchasing the stock.

The loan program of the bank has not been entirely satisfactory and the bank has failed to achieve the purpose for which it was established, which was to help improve the production of the small farmers of the country. In early 1959 there was a change in the management of the bank and the new management recognizes that any new loan program must be established on a wholly different basis if it is to be successful.

In a meeting attended by the Minister of Agriculture, the President of the Agriculture and Cottage Industry Bank, and USOM/A representatives, it was decided that 3,254,000 afghanis which were programmed to the Ministry of Agriculture from U.S. and RGA-controlled, RGA-titled funds (PL 480, Title II) would be reserved for a pilot agricultural credit project. It was further decided that these funds would not be released until after the credit advisor and bank officials completed the organization for making and supervising loans.

PROJECT GOALS

A. Assist the Royal Government of Afghanistan in the establishment and operation of a workable agricultural credit organization which will provide credit to farmers at a reasonable rate of interest.

B. Provide a revolving fund so that help to farmers will be in the form of a loan instead of a subsidy.

ACCOMPLISHMENTS DURING CALENDAR YEAR 1959

In October 1959, an agricultural credit consultant visited Afghanistan and recommended among other things that joint (RGA and ICA) controlled afghanis be used in a revolving fund for agricultural credit. The Ministry of Agriculture and the Agriculture and Cottage Industry Bank agreed to set aside 3,254,000 RGA-owned, US-controlled afghanis for the establishment of a revolving fund for the first pilot project. An agricultural credit specialist has been requested by USOM/A for FY 1961 (after July 1, 1960).

OBLIGATIONS AND EXPENDITURES

See cover project

WORK REMAINING

Assist the Agriculture and Cottage Industry Bank in the establishment and operation of a workable agricultural credit organization which will provide credit to farmers at a reasonable rate of interest. This will involve a reorganization of the agricultural credit branch of the bank and the training of sufficient personnel to operate the organization without outside assistance.

Assist the Ministry of Agriculture with the training of extension workers to provide field supervision to farmers receiving credit.

PROBLEMS

The following problems must be solved before speedy implementation of subproject goals may be accomplished:

1. Train sufficient credit personnel.
2. Correct the present unsatisfactory loan program of the Agriculture and Cottage Industry Bank.
3. Change the present thinking of farmers regarding the repayment of loans.
4. Establish storehouses for commodities to be distributed to farmers on a credit basis.

NATIONAL AGRICULTURE DEVELOPMENT

Project 306-11-002

Helmand Valley Authority

Project Director: D. Abdul Wakil
 Project Technician: M. Reed H. Lewis

INTRODUCTIONRationale

Extremely complex crop production problems, notably those involving salinity, irrigation, drainage, and diversified farming hamper the Helmand Valley Authority's agricultural program. Coupled with land settlement and allied problems, these obstacles have prevented attainment of the productive potential of reclaimed lands. Activities under this project are aimed at helping HVA benefit more adequately from their great investment in Helmand Valley development. Emphasis is to be placed on training, both in-service and foreign, to build up a technically competent agricultural organization large enough to achieve this objective. The project is broad in scope and affects all of the developed and settled portions of the Helmand Valley served by the Helmand Valley Authority.

Project Description and History

USOM/A's technical assistance in agriculture to the Helmand Valley Authority (HVA) dates from 1953 and has continued in variable scope and intensity since then. This aid was earlier extended as part of other projects; but HVA agricultural assistance was placed in this project by a June 25, 1957 amendment to this project, which incorporated herewith the FY 1956 project 306-19-025, titled Helmand Agriculture Development. The inclusion of assistance to both HVA and the Ministry of Agriculture in a single project continued through FY's 1958 and 1959, but this proved to unwieldy and undesirable in many respects. In FY 1960 separate project agreements for HVA and Ministry assistance were executed for this over-all project. Each agreement is broken down into subprojects, of which there are six for HVA and seven for the Ministry of Agriculture. For FY 1961 it is planned to separate completely the technical assistance for these two distinct and independent organizations. The present project will then revert solely to the Ministry of Agriculture and a new project, Agricultural Development - Helmand Valley, 306-12-060, will be initiated with the Helmand Valley Authority.

Assistance to HVA in agriculture began with the establishment of an extension training center at Nad-i-Ali in October 1953. As the extension activity spread through the newly developed areas, the training center was moved to Marja in 1957. During 1954-55 technical assistance was expanded by the assignment of USOM/A technicians in agronomy, horticulture, animal husbandry, irrigation and drainage, and forestry. Subsequently, forest and fruit tree nurseries were developed, an agricultural research station and seed increase farm were established, a horticultural program was undertaken, and irrigation and drainage studies were begun. The research station and seed increase farm at Lashkar Gah were lost in a March 1957 flood, but new units were laid out at Marja in the fall of 1957. Some

project activities have been steadily and profitably pursued, but others have lapsed or failed to progress satisfactorily, often due to understaffing. The parent project for the HVA now includes the following subprojects:

1. Agricultural Extension and Agronomy
2. Irrigation and Drainage
3. Livestock and Poultry
4. Forestry and Horticulture
5. Agricultural Machinery and Equipment Workshop
6. Agricultural Research

In addition to subproject activities, the project includes operational and organizational aid to HVA's Agricultural Department.

Report Format

In order to properly evaluate progress by subproject activities, a separate report has been prepared on each subproject except Agricultural Machinery and Equipment Workshop, which was inactive throughout 1959. This cover report is therefore generalized, and more detailed information is given in the individual subproject reports.

PROJECT GOALS

- A. Assist HVA in developing a modern agricultural program adapted to Valley conditions and emphasize crop rotation and diversified farming.
- B. Support and expand present agricultural extension activities.
- C. Develop modern methods of irrigation and drainage.
- D. Increase the quantity, quality, and productivity of Helmand Valley livestock and poultry.
- E. Help to satisfy the Helmand Valley's needs for wood and fruit by expanding existing forestry and horticultural programs.
- F. Establish an agricultural machinery workshop and help develop hand tools.
- G. Carry out a selective program of agricultural research.

ACCOMPLISHMENTS DURING CALENDAR YEAR 1959

For the various project activities, the individual subproject reports which follow describe 1959 accomplishments. A few developments of a general nature are mentioned here. These contribute to the attainment of project goal A concerned with operational and organizational aid to HVA's Agricultural Department.

Eight ICA agricultural participants returned to HVA in late summer after completing four years of training in the United States and receiving B.S. degrees. Two men had majored in extension, two in agronomy, and one each in animal husbandry, entomology, agricultural economics, and forestry. As the year ended, two additional graduates, one in horticulture and the other in agricultural engineering, were soon to return from the United States. This group of technicians will greatly strengthen HVA's agricultural organization.

In December 1959, an agreement between HVA and USOM/A was executed for the provision of local currency, generated by the sale of surplus American agricultural commodities under Public Law 480, Title II, to further support project activities. This agreement provides a total of 14,346,927 afghanis for the last three quarters of FY-60, budgeted to individual subprojects on a quarterly basis.

FINANCIAL OBLIGATIONS

	<u>ICA</u> \$		<u>RGA</u> (Helmand Valley Authority)
To June 30, 1959	361,000	Afs	5,000,000
Planned from July 1, 1959 through June 30, 1960	134,000		10,023,000
		(PL 480)	14,347,000
Planned FY 1960 Obligations by subproject	<u>ICA</u> \$	<u>HVA</u>	<u>RGA</u> <u>PL 480</u>
1. Agriculture Extension & Agronomy	48,230	Afs 1,667,000	1,667,000
2. Irrigation & Drainage	21,870	2,575,000	5,899,000
3. Livestock & Poultry	15,650	1,754,000	1,754,000
4. Forestry & Horticulture	15,750	2,610,000	2,610,000
5. Agricultural Machinery & Equipment Workshop	-	288,000	-
6. Agricultural Research	<u>32,000</u>	<u>1,129,000</u>	<u>1,129,000</u>
Project Revolving Fund			<u>1,288,000</u>
Totals	133,500	10,023,000	14,347,000

EXPENDITURES ^{1/}

To December 31, 1959

ICA	\$ 1,212,343	
RGA	7,119,000 (est.)	(Ministry of Agriculture and Helmand Valley Authority)

^{1/} Expenditures include both Ministry of Agriculture and Helmand Valley Authority. No breakout between the two is possible.

WORK REMAINING AND PROBLEMS

The proposed HVA agriculture activities and the problems particularly affecting them are discussed in the following subproject reports.

Agricultural Extension and Agronomy - Helmand Valley Authority

Subproject I

INTRODUCTIONRationale

The principal long-term goal of agricultural extension is to increase agricultural production and to raise the living standards of the rural people. The subproject is designed to provide more and better-trained extension workers and to strengthen field extension activities throughout the developed and settled areas served by HVA.

Extension workers are principally concerned with crop, vegetable, and fruit production; livestock and poultry production; establishment of wood lots and orchards; insect, rodent, and weed control; and irrigation and drainage. Extension techniques consist principally of establishing demonstration plots, conducting training sessions, and directly assisting individual farmers.

Project Description and History

An extension and village worker training program was begun in the Helmand Valley in 1953 with the establishment of a training center at Nad-i-Ali. The center was transferred to Marja in 1957. Since that time, the program has been limited to on-the-job training, due to the lack of a training advisor. An agricultural extension training advisor has been budgeted for FY-60. In July 1958 an ICA extension advisor was assigned to the Helmand Valley.

The present agricultural extension organization consists of a director, four block officers or district extension supervisors, and 75 village level workers. This group serves the organized extension districts of Marja, Nad-i-Ali, Darweshan, and Shamalon.

PROJECT GOALS

- A. Expand the agricultural extension program to provide assistance to farmers on all developed lands by 1963.
- B. Expand and improve the agriculture extension training center.
- C. Establish farm demonstration plots in all of the villages.
- D. Provide in-service training for all agricultural extension workers.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

A summary of 1959 agricultural extension accomplishments is as follows:

A. Direct aid to farmers

Assisted in the establishment of 160 new vineyards on farms; assisted in the establishment of farm wood lots and other tree plantings; gave assistance to farmers in the construction of new houses and the rehabilitation of old ones; sponsored two field days at the Marja agricultural research station; and sponsored the showing of films and movies in the villages.

It is estimated that to date 3,000 farmers on 141,000 acres of land have been reached by agricultural extension.

B. Training Center

The training center, which has been in operation since 1953, has trained about 150 extension and other workers. Housing, office facilities, and transportation have been provided for these workers.

C. Agricultural demonstrations

Demonstrated grass-legume varieties, inoculation, and seed-bed preparation; fertilizers on wheat, corn, grass-legumes, barley, and cotton; row versus broadcast planting; corn variety test plots; improved equipment; seed cleaning; testing and treating; and seed-bed preparation.

Although wheat is still the principal crop, considerable progress has been made toward crop diversification and the production of higher income crops. Orchards and vineyards are being planted on many of the farms. Demonstrations of the use of commercial fertilizers, better seed, and improved practices have been established in areas accessible to the farmers, usually in or near the villages. Farmers are beginning to dig farm drains to minimize the salt and drainage problems in some of the project areas.

D. Training

Held workshops in the Marja, Nad-i-Ali, Shamalon and Darweshan districts.

Agricultural extension training sessions are being conducted regularly for the extension workers. An extension director, who had just received his degree in agriculture, was provided by the Helmand Valley Authority last summer. He returned in July, 1959, from four years' participant study in the United States.

E. Other Accomplishments

Checked a serious locust invasion in the Marja and Darweshan districts; assisted with the control of spiny bollworm in the cotton areas; distributed better seed to farmers; and cooperated with the rural health and education program and with the rural schools.

OBLIGATIONS AND EXPENDITURES

See cover project

WORK REMAINING

Increase the extension force by 150 workers in order to cover the remaining developed areas. This involves expansion of training facilities, more housing for workers, and additional transportation. Many more widely dispersed demonstrations are needed involving fertilizers, diversified farming practices, better seed, improved water use, and better cultural practices.

It is planned for extension to also participate more actively in insect and disease control, marketing, and agricultural credit projects. Fruit production for local consumption and export is to be promoted.

PROBLEMS

The following problems must be solved before speedy implementation of subproject goals may be accomplished:

1. Insufficient trained extension personnel and inadequate housing for extension workers.
2. Inadequate extension training center facilities and insufficient Afghan teachers for the training center.
3. Lack of teaching aids and demonstration materials and unsatisfactory audio-visual materials.
4. Insufficient transportation and communication facilities.

Irrigation and Drainage - Helmand Valley Authority

Subproject II

INTRODUCTIONProject Description and History

This is a new subproject which was started with the arrival of an irrigation farming advisor in April 1959. The Helmand Valley Authority's Agricultural Department requested technical assistance in order to improve irrigation water application, provide farm drainage to lands affected with saline conditions and a high water table, and train HVA personnel in modern methods of irrigation and drainage.

The irrigation farming advisor has thus far assisted HVA in the laying out of drains; establishment of farm irrigation systems; extension service demonstrations of better methods of water use; and supervision of an on-the-job irrigation and drainage training program.

Rationale

The development of the Helmand Valley has been underway for the past 12 or 13 years and some 3,000 settlers have been placed on the land. As irrigation and drainage were not developed simultaneously in the Valley, some areas became waterlogged and saline. Furthermore irrigation problems are aggravated by farmers using more irrigation water than necessary. For the Royal Government of Afghanistan and the Helmand Valley Authority (HVA) to benefit fully from their large investment, lands must be brought into profitable production as rapidly as possible; and to accomplish this, drainage must be provided and farmers must be taught better water usage.

PROJECT GOALS

A. Complete the secondary and farm drains of the Nad-i-Ali area by 1961 (if funds are available).

1. Reclaim saline and waterlogged land.
2. Prevent further drainage and salinity problems.

B. Complete the establishment of a development (demonstration) and have it under cultivation by 1961.

C. Determine agricultural production potentials by 1963.

D. Establish irrigation and drainage demonstrations on typical farms of the four organized extension districts by 1961.

E. Continue irrigation training through 1964.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

USOM/A provided an irrigation farming advisor in April 1959. An Afghan counterpart, who returned after 4 years of training in the U.S., was assigned to the irrigation and drainage project in November 1959. USOM/A had not previously participated directly and specifically in an irrigation and drainage subproject.

The first few months after the arrival of the advisor were spent principally in the formulation of a program with HVA's Agricultural Department, with the following aspects:

Regulation of water to farms; maintenance and construction of lateral and sub-lateral drains and canals; irrigation development (demonstration farms); establishment of an irrigation training program for the irrigation department of the HVA and the extension service; and evaluation of drainage tests at the Marja Experiment Station.

During 1959 assistance with irrigation and drainage was given to the extension service. A drainage plan was formulated for the Marja Research Station. Work was also done on irrigation guides for project areas. In December 1959 work was started on the hand digging of lateral drains for the Nad-i-Ali area. This is being done by the settlers during a slack period in their farming operations. At year's end, 400 men were employed on this job. It is planned that drains for a 10,000-jirib area will be completed this season.

Work also began in December 1959 on laying out at Nad-i-Ali the first of four planned 100-acre (200-jirib) demonstration farms.

OBLIGATIONS AND EXPENDITURES

See cover project

WORK REMAINING

For 1960 the irrigation and drainage program consists of:

Establishing a drainage system capable of correcting the salinity problem and high water table on 10,000 jiribs (approximately 5,000 acres) of the Nad-i-Ali area. The work remaining in this area involves the construction of 80 kilometers of secondary drains.

Selecting, mapping, leveling, and establishing the irrigation system for three additional 100-acre (200-jiribs) development farms.

Assisting agricultural extension with the establishment of demonstrations and provide better irrigation and drainage to enable the lands to be put into full production.

Organizing and conducting short training courses in irrigation and drainage for all extension personnel.

PROBLEMS

Project activities are hampered by the length of time required to obtain commodities.

The inadequate number of trained Afghans is still a problem.

Livestock and Poultry - Helmand Valley Authority

Subproject III

INTRODUCTION

Rationale

Livestock production will eventually play a very important role in the Helmand Valley, especially in the Nad-i-Ali, Marja, and Seraj areas. These areas have over 80% of poorer (Class III and IV) lands and are affected by salinity and drainage problems. Trials with pasture grasses at the Marja Research Station show good results on the Class III and IV lands which also have a drainage and salinity problem. It is anticipated that a large share of these lands will be used for pasture and hay production.

Improved dairy and poultry products will improve the diet and consequently the health of children and adults.

Project Description and History

The long-term objectives of this program are to increase the quantity, quality and productivity of Helmand Valley livestock and poultry and to fully develop them in accordance with the agricultural potential of various land classes. This involves the provision by USOM/A of commodities and services for strengthening and expanding the work already begun in this field.

A new project activity involves a pilot dairy at Lashkar Gah, including both production and processing. In addition to providing a market for locally produced milk, this plant will serve as a training ground for future dairymen and will be an incentive for expanding dairy production throughout the Valley.

USOM/A participated in the livestock program began in the Helmand Valley with the assignment of a livestock advisor for a two-year period in 1955. During the past two years, no USOM/A technicians have served the program full time. Occasional services have been provided from Kabul by livestock technicians from the Wyoming Contract Team and by the agriculture extension advisor stationed at Lashkar Gah.

PROJECT GOALS

The principal subproject goals are as follows:

- A. Help the livestock and poultry branch of HVA's Agricultural Department become an effective and well organized unit.
- B. Continue testing introduced breeds for adaptability to Helmand Valley conditions.

- C. Improve local livestock through selection and cross breeding.
- D. Conduct feeding and pasture trials.
- E. Extend useful results of breeding, feeding and other tests as rapidly and as extensively as possible.
- F. Aid in the detection and control of insects and diseases of livestock and poultry.
- G. Raise good breeding stock of both native and introduced breeds in adequate numbers for distribution.
- H. Build up and properly manage a good 80 to 100 cow pilot dairy herd at Lashkar Gah to encourage dairy production in other areas of the Valley.
- I. Complete the dairy processing plant at Lashkar Gah.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

Progress on previously established research activities continued to be made, as test results became increasingly apparent during the past year.

The Columbia sheep imported into Afghanistan some years ago have been found to be well adapted to agricultural conditions in the Valley. These were twice dipped for mange and ticks. Individual records of butter fat content and production were started in 1959 for the Brown Swiss cattle also imported several years ago. Research work designed to improve quantity and quality of dairy production was continued. In addition to the testing of milk, preventive measures designed to protect cattle against such diseases as black leg, anthrax and pasturilla, were taken. To improve native strains, 4 bulls and 4 cows of Indian breed were brought in from India during last year. Through these efforts, the HVA intends to have a pilot herd of about 40 cows in production during the fall of 1960.

In poultry production, research also continued throughout 1959, largely by comparing local birds with the 500 New Hampshire Red chickens first introduced in 1956. Substantial improvements in egg production over native stock have been noted. As a result, both eggs and chickens have been distributed to farmers, including 100 New Hampshire roosters. Pekin ducks, first introduced in 1958, have been found to be well suited to Valley conditions. The results of research work show that widespread distribution of these birds among farmers may be expected in a few years.

Much of the livestock research has been conducted at the Nad-i-Ali farm. Construction of new housing facilities for livestock continued in 1959, and included three new laying houses. In addition the building for the pilot dairy processing plant at Lashkar Gah is nearing completion.

The horse-mule breeding program has been shown to be not as successful as was originally hoped. The future use of horses for power in the Valley is doubtful due to the hot climatic conditions and the refusal of farmers to accept horses. Mules, however, have been shown to be somewhat more adaptable, and further breeding and demonstration of mules are required in order to encourage the use by farmers.

Two participants who majored in livestock production have returned from the US MILA-ASSIGNED TO THE STOCK subproject. A veterinarian recently returned from training in Turkey and a veterinary laboratory is being established. USOM/A is providing a livestock advisor who is expected to arrive during the spring of 1960.

OBLIGATIONS AND EXPENDITURES

See cover project

WORK REMAINING

The job of organizing an effective livestock and poultry branch within HVA's Agricultural Department is far from complete. The various selection, breeding, and other husbandry tests, already begun, are to be expanded. More improved livestock and poultry are needed, along with a large increase in the program of raising proven breeds for distribution to farmers. The results of large-scale crossing of introduced breeds with native livestock have yet to be observed and analyzed.

Protection of livestock and poultry from the ravages of insects and disease has scarcely begun. Safeguarding of HVA's investment in the project from outbreaks of such diseases as rinderpest, hoof and mouth disease, hemorrhagic septicemia in cattle, and New Castle disease in poultry remains to be accomplished.

Very little has been done to satisfy in-service training needs.

PROBLEMS

The following problems must be solved before speedy implementation of subproject goals can be accomplished:

Insufficient trained personnel.

Inadequate livestock facilities.

Salinity and drainage problems on areas best adapted for livestock production.

Insufficient good livestock for the improvement and distribution program.

Educating farmers who are on Class III and IV lands to adopt a pasture-livestock economy.

Educating farmers to use of mules for power.

Create a market for better quality livestock and poultry products.

Forestry and Horticulture - Helmand Valley Authority

Subproject IV

INTRODUCTIONProject Description and History

This subproject involves ICA assistance in developing forestry and horticulture in the Helmand Valley to satisfy the needs of the developed areas of the Valley for fuel wood, construction timber, shelterbelts, and amenity tree plantings; provide the fruits and vegetables required to properly supplement other farming activities and improve food supplies for local consumption; and develop commercial fruit production for marketing outside the Valley.

The forestry and horticulture subproject dates from August 1954 when a USOM/A forest-tree nursery and planting specialist was assigned for a two-year period. No U.S. forester has subsequently been assigned to the subproject, but USOM/A horticulturists served from September 1955 through August 1958. Another horticulturist arrived in November 1959.

Rationale

In the Helmand Valley's developed areas, ultimate self-sufficiency in wood, for both fuel and other uses, is basic to the development of a fully productive and well-balanced agricultural economy. Forestry programs must be accelerated to create more forests for both productive and protective purposes. As concerns horticulture, a small but sound start has been made toward developing the orchards, vineyards, and gardens necessary to diversified farming and adequate diets. To satisfy local needs and market Valley produce elsewhere, horticultural activities must be greatly expanded.

PROJECT GOALS

Increase the quality and quantity of fruit and wood-lot trees and other planting stock in HVA nurseries.

Expand wood-lot, shelterbelt, and amenity plantings.

Encourage the planting of home fruit and vegetable gardens.

Introduce new varieties and types of fruit trees and vegetables.

Encourage the development of commercial orchards and vineyards.

Teach and demonstrate proper horticultural practices.

Improve the handling, processing, and marketing of fruits and vegetables.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

As no USOM/A technician was assigned to this subproject until late in 1959, only limited technical assistance in forestry and horticulture was given during most of the year through the part-time work of USOM/A agriculturists assigned to other subprojects.

An Afghan participant returned in mid-year from four years of U.S. training in forestry and became HVA's forestry director.

Despite staffing problems, good progress was made during 1959 in previously established phases of the subproject. About 100,000 seedlings, transplants, and cuttings were produced in the various nurseries. Improvements in nursery design and operation were planned so as to utilize newly-ordered equipment. In recently settled areas, the goal of one acre of fruit trees per farm was about 80% accomplished. A series of tree planting training sessions was held in December in the Darweshan, Shamalon, Marja, and Nad-i-Ali areas. Community tree planting programs were organized at Girishk and Sangin. Investigations of the feasibility of citrus production were carried out in several Valley areas.

OBLIGATIONS AND EXPENDITURES

See cover project

WORK REMAINING

In forestry, major jobs undone include overhauling of the nursery system and its operations; assuring consistent use of proper practices for lifting, transporting, and planting trees; training all concerned in the care of trees after planting and in their utilization; developing and producing for planting such native and exotic trees as are proved adaptable and useful; and encouraging the expansion of wood-lot, shelterbelt, and amenity plantings.

In horticulture, the most important jobs that remain include expanding output of vegetables and good nursery fruit trees; training HVA horticulturists in the most advanced cultural practices; introducing new varieties and types of fruits; encouraging the expansion of commercial orchard and vineyard plantings; and determining and demonstrating effective methods of handling, processing, and marketing horticultural produce.

PROBLEMS

In order to properly implement this subproject, the following problems must be overcome:

Difficulty and delay in bringing commodities into Afghanistan.

The lack of adequate soil drainage in many areas causing excess accumulation of salts.

The need for much more forestry and horticultural equipment and machinery.

The shortage of trained technicians.

Agricultural Research - Helmand Valley Authority

Subproject V

INTRODUCTION

Agricultural research was undertaken in the Helmand Valley to determine crop and livestock programs which would provide sufficient income to repay land development costs and sustain the farmers in an economic enterprise.

In 1956 a research station was established near Lashkar Gah, but it was washed out by floods the following spring. Another site in the Marja area was selected and the first plantings were made there in the fall of 1957. Increasing soil salinity has limited the usefulness of this station. Fruit tree plantings have been established at Darweshan to determine what can be grown satisfactorily in that area. Oranges, lemons, olives, and dates have been included in the plantings. A small tract of land at Kajakai Dam has been set aside by HVA for range improvement studies. Investigations of another tract of land in the Shamalon area for crop variety research have been conducted.

PROJECT GOALS

A. Test the N-P-K soil requirements to determine the optimum amounts to use and the economic feasibility of commercial fertilizers and green manures in the production of field crops, vegetables, and fruits.

B. Improve the existing soils laboratory.

C. Test locally grown and introduced varieties of agronomic and horticultural crops for adaptability and yield, and increase the crops which have proven superior by seed production and vegetative propagation.

D. Develop irrigation techniques best suited to the area and to the needs of the local farmers.

E. Determine the most expedient and efficient means of reclaiming highly saline soils.

F. Conduct studies to determine the feasibility of raising livestock on irrigated pastures.

G. Through selection upgrade the local breeds of sheep.

H. Increase poultry and dairy production by selection of local breeds and the introduction of foreign breeds.

I. Develop and adequately staff a new central research station in the Helmand Valley.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

Seventeen pasture plots using various mixtures of legumes and grasses have been established. Due to lack of equipment, actual forage yields were not determined. Eleven varieties of grasses were grown in nursery plots. Alkali sacaton appears to be the most tolerant to saline conditions. Six varieties of alfalfa were tested but due to salinity, yield results were erratic. Two varieties of sweet clover and six other varieties of clover were grown and the local Afghan variety appears to be the most tolerant to saline conditions. Fifteen varieties of barley were tested, and the four best yielding ones were Atlas, Trebi, Arviat, and Frontier. Twenty-one varieties were planted in the Fall of 1959. Eight oat varieties were grown and harvested. Fourteen varieties were planted in the Fall of 1959. Fifty-six wheat varieties were tested for yield in 1959 and fifty were planted for testing in 1960.

Six varieties of cotton were grown in 1959, of which Acala appears to be the best adapted. Eleven varieties of soy beans were grown. Clark, Hero-Soy, and Hawkeye were the three leading producers. Four varieties of castor beans were also grown. Ten varieties of sugar beets were harvested in 1959 and seven varieties planted for the 1960 harvest. Time-of-planting studies with this crop were also conducted. Date palms were planted at Darweshan and a few olives were produced on the olive trees introduced there the year before.

In June an Afghan University of Arizona graduate returned to supervise and develop the seed increase farm. In the fall of 1959 the following areas were planted for seed increase: 30 jiribs of alfalfa, 3 jiribs of Alta fescue, 3 jiribs of sweet clover, 40 jiribs of White Federation wheat, 143 jiribs of Nebred wheat, 8 jiribs of California Red Oats, and 2 jiribs of Ventura oats. One jirib has been planted to carrots, onions, radishes, turnips, cauliflower, and cabbage for seed production.

Digging of drains on and adjacent to the Marja station was commenced. About 200 meters of drain had been completed on the farm by the end of the year.

Assistance was also given in setting up HVA's soils laboratory.

OBLIGATIONS AND EXPENDITURES

See Cover Project

WORK REMAINING

Establish a new experiment station in the Bolon area near Lashkar Gah where salinity will not be a problem.

Continue salinity studies at Marja.

Establish and maintain sound fertilizer and crop rotation studies.

Establish controlled irrigation studies.

Introduce additional fruit varieties at Darweshan for the determination of adaptability.

Improve the existing HVA soils laboratory.

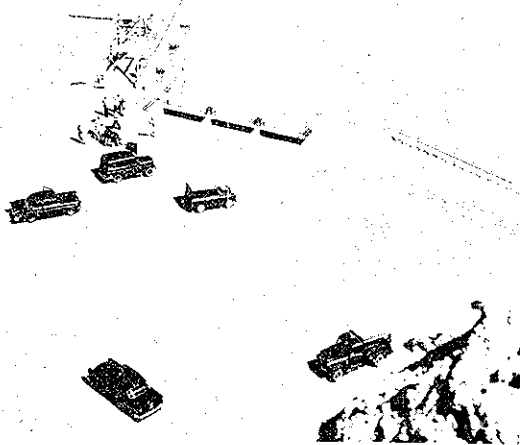
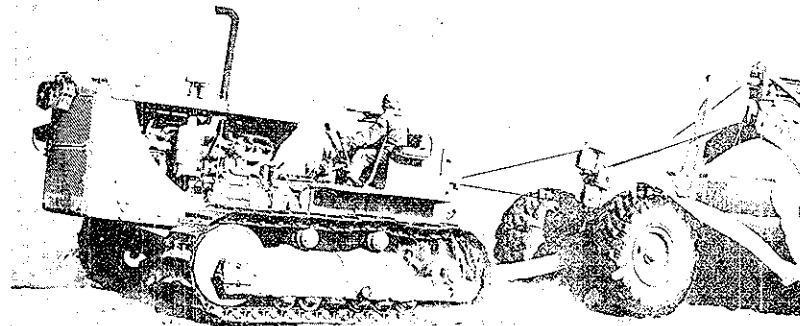
Continue agricultural research activities in the fields of dairying, livestock, pasture improvement, crops and weed control.

PROBLEMS

More technical personnel are needed to adequately staff the stations and to train local personnel. The counterparts and aides should be assigned and trained in such a manner as to become familiar with all aspects of station operations. Highly trained Afghan specialists must be developed in order that they may eventually direct the various phases of research work.

Materials and equipment are generally obtained much later than is desirable. A means of expediting offshore procurement would materially benefit research activities.

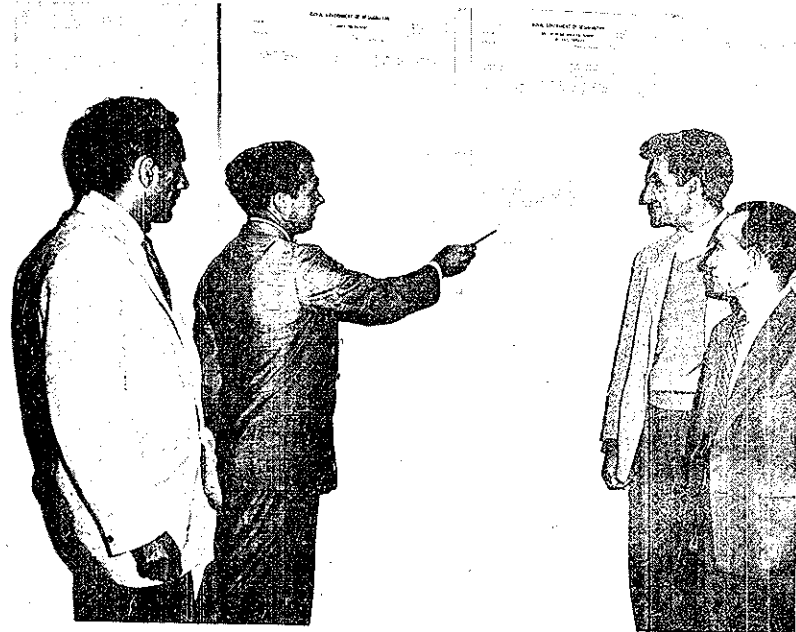
HELMAND VALLEY



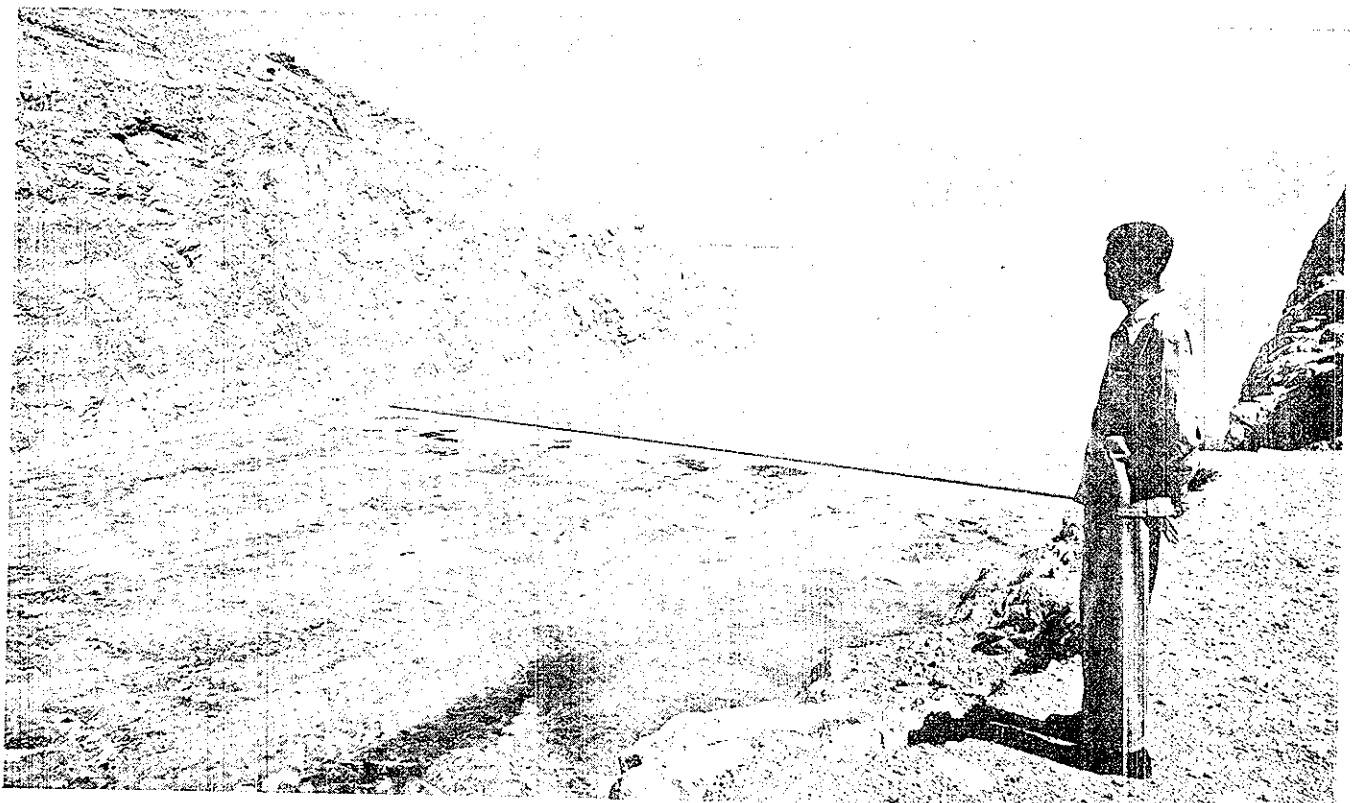
ABOVE: The Darweshan Diversion Dam on the Helmand River.

UPPER RIGHT -- Afghan Construction Unit preparing land for cultivation.

BELOW -- The spillway of Kajakai Dam on the Helmand River.



ABOVE -- A PAS Advisor discusses new forms developed for the H.V.A.



HELMAND SURFACE WATER INVESTIGATION

Project 306-12-021

Project Director: Mr. Sayyid Wahdat Shah
Project Technician: Mr. Robert H. Brigham

INTRODUCTION

Project Description and History

This project is directed toward the development of an organization within the Helmand Valley Authority to provide hydrological knowledge. Although ground-water investigations were originally contemplated under this project, none has been conducted and no project work in this field is planned for the future.

Hydrological investigations supported by U. S. technical assistance were begun in the Helmand Valley in 1952. Initial activities, part of an early Point IV program, were carried out in conjunction with the over-all development work performed by Morrison-Knudsen Afghanistan, Incorporated. All American technicians assigned to the project have been hydrologists provided by the Geological Survey of the Department of the Interior. Project headquarters were at Girishk from 1952 through 1954, at Chah-i-Anjir in 1955, and at Lashkar Gah from 1956 to date. Formal project documents covering hydrological investigations were first executed for fiscal year 1956. Objectives contained in these documents and those of subsequent fiscal years have generally agreed with the objectives of the earlier period of informal cooperation. It is now anticipated that this continuing project could be phased out in December 1961, by which time the Helmand Valley Authority's hydrological organization should be capable of conducting its operations without foreign technical assistance.

Rationale

Hydrological data collected and analyzed through this project are vital to the effective planning and operating of large-scale irrigation, drainage, land development, resettlement, hydro-electric, and other related programs being undertaken by the Helmand Valley Authority. Proper utilization of both land and water resources in the Helmand Valley demands an adequate knowledge of the hydrologic system of the Helmand River watershed.

PROJECT GOALS

- A. Develop within HVA a competent hydrologic unit for the collection, compilation, analysis, and publication of hydrological, climatological, and related data.
- B. Supervise operation of a network of stream-gauging stations.
- C. Compile, analyze, and publish stream-flow and related records for technical purposes.

- D. Rate canals and other channels as required for canal operations.
- E. Establish climatological stations as required.
- F. Determine rainfall-runoff correlations, canal losses, etc.
- G. Make forecasts of water supply in the Helmand River watershed.
- H. Provide advisory hydrological services.
- I. Compile sedimentation data for Kajakai and Arghandab reservoirs.
- J. Give in-service training, both field and office, to personnel of HVA's hydrologic unit.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

During 1959, progress in developing the Hydrologic Unit in HVA was somewhat retarded by a series of changes in project technicians. In mid-year the ICA hydrologist assigned to the project since June 1954 left for reassignment in the United States. Another hydrologist served the project on temporary duty from mid-June to late August; and a newly assigned project technician arrived in Lashkar Gah in mid-November.

Despite lack of continuity in project supervision, substantial progress was made in attaining project objectives. At the close of the year, the situation with regard to the assignment of trained Afghan technicians to the Hydrologic Unit was considerably improved. An Afghan graduate civil engineer (University of Wyoming) joined the unit as assistant director in September, and a general director was designated and given increased authority. For the Afghan fiscal year beginning September 24, 1959, the unit's staffing pattern was revised and its budget was increased to 1,780,000 afghanis, about four times greater than the previous year's budget.

Goals B. through I. are concerned with operational work in hydrology. Accomplishments in this area are as follows:

A network of 13 automatic meter-stage recorder stations was operating at year's end. Occasional discharge measurements were being taken at five additional non recording stations.

Compilation of 1957-58 water-year records was completed in May, and the data was sent to the Geological Survey, Washington, D.C., for further processing. For water-year 1958-59, compilation of records was about 20% completed at year's end.

Flow data were assembled for canals and turnouts, and a vehicle-anchored cableway with carriage was devised for measuring canal flow in the absence of cross-channel structures. Two newly arrived aluminum cable-cars were also installed on the Arghandab River in April and May. A vertical staff gauge was installed on the Tarnak River, just above the highway crossing south of Kandahar. Five evaporation stations were in operation at year's end.

Detailed monthly operational records for the Kajakai and Arghandab reservoirs, based on daily observations, were prepared throughout 1959. These reports cover reservoir elevations and contents, releases by valves and by spillway, evaporation rates, inflow rates, and valve opening percentages.

Monthly climatological summaries were also prepared covering such weather conditions as temperature, precipitation, evaporation, humidity, and wind velocity.

During 1959 reservoir spillway ratings and runoff estimates were checked and reservoir release and operational schedules were prepared in June for the balance of 1959.

The climatological stations at Lashkar Gah and Kala Kong continued in operation throughout 1959 and the secondary station at Panjao operated intermittently. Unseasonal weather made several spring attempts to cover the snow-survey course in the Murkur-Ghazni area practically fruitless.

Advisory services were extended to HVA as needed, particularly to the Engineering Department and the Canal Operation and Maintenance Section.

Compilations of 1956-57 sedimentation data for Arghandab Reservoir was completed in mid-year and rough estimates of sedimentation for this reservoir were made for 1958-59.

The turnover in project technicians mentioned above hampered activities in training during 1959, although it was advanced somewhat.

FINANCIAL OBLIGATIONS

Although U.S. participation in project activities began in 1952, dollar obligation data date only from FY 56, as follows:

ICA		
FY 1956 - 1959		
(through June 30, 1959)		\$170,000
RGA		
		98,000 (dollar equivalent)
Planned FY 60	ICA	\$ 44,000

EXPENDITURES

Through December 31, 1959

ICA	\$146,435
RGA	98,000 (dollar equivalent)

WORK REMAINING

The work still necessary to achieve project goals lies largely in the completion of the in-service training required to make the Hydrologic Unit capable of fully discharging its field and office responsibilities. A considerable expansion of technical staff and stepped-up training programs are essential to this end. Minor additions to the network of stream-gauging stations and certain improvements of existing stations are required. Several more climatological stations are to be established. A five-year (1955-59) summary of hydrologic data thus far collected is to be prepared and published. Reservoir sedimentation studies should be renewed and reports prepared thereon. Continuity of operations, stability of staffing, and adequate budgetary support are required by the Hydrologic Unit before withdrawal of U.S. technical assistance.

PROBLEMS

Dominating all other project difficulties is the shortage and incomplete training and experience of Hydrologic Unit personnel. Competence in field and office operations is being acquired too slowly. Bolstering of the existing staff and development of unit abilities to cope with project activities must be emphasized. Improved unit morale will accompany more effective organization and more skilled operations. Less serious problems involve procurement of project materials as and when needed and provision of adequate transportation facilities.

HELMAND IRRIGATION - CONSTRUCTION AND SURVEYS

Project 306-12-053

Project Director: Mr. Sayyid Wahdat Shah

Project Technician: Mr. Walter L. Begley (Acting)

INTRODUCTIONProject Description and History

This project provides for the construction of main irrigation canals, laterals, drains, and intakes in the Helmand Valley irrigation system in order to continue certain Phase I activities of the Helmand Valley Survey Mission report prepared by the Tudor Engineering Company in 1956.

This work is a continuation of activities funded in FY 1957 as part of this project and in FY 1958 under project 306-99-056, Helmand Resources Development Operations. Earlier activities brought to completion certain elements in the Arghandab and Darweshan areas. No other areas except the Seraj and Tarnak remain to be covered under this project. Those areas are served, respectively, by the already existing Seraj Canal and the partially completed South Branch of the Tarnak Canal.

As concerns the Seraj area, the irrigation development work to be done chiefly involves the maintenance and rehabilitation of the existing Seraj Canal facilities which were badly damaged by 1957 flood waters. First priority will be given to rebuilding the canal intake structure and the first two kilometers of the main canal below the intake. This work will be followed by rehabilitating selected segments of the Seraj Canal, along with certain crossings, underpasses, and related structures.

In the Tarnak area, it is proposed to construct new irrigation and drainage facilities in the South Branch of the Tarnak Canal. This work has been engineered with funds made available to Morrison-Knudsen Afghanistan under a 1954 contract with the Helmand Valley Authority. On the basis of the plans and specifications, it is proposed to complete construction of a fully operable canal and drainage system for some 63,000 acres. The main canal has been constructed to the areas and approximately 10,000 acres are presently being irrigated.

The Tarnak area represents one of the largest blocks of Class I, II and III lands under the Helmand Valley Authority remaining to be developed. This area is favorably located, being on a good road and near the Kandahar market.

Rationale

Irrigation activities in the Helmand Valley area are essential for increased production of food and fibres in an area with an annual rainfall of about four inches. Resettlement goals of the Afghan Government require such irrigation.

PROJECT GOALS

- A. Survey the Arghandab irrigation system.
- B. Construct an intake on the North Arghandab.
- C. Perform design and construction work:
 - 1. Construct a new intake for the Seraj Canal capable of handling 800 cubic feet of water per second.
 - 2. Construct approximately 2 kilometers of canal from the point of the new intake, which is further up the river, to connect with the present canal.
 - 3. Complete certain segments of the main canal, along with underpasses and other structures.
 - 4. Carry out work in accordance with plans for making the Seraj Canal capable of irrigating approximately 63,000 acres.
- D. Construct new irrigation and drainage facilities in the South Branch of the Tarnak Canal, which together with construction already completed will irrigate approximately 20,000 acres.
- E. Provide on-the-job training to Afghan personnel to the maximum extent consistent with timely and efficient completion of work.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

All work in connection with Goals A and B above was completed in early 1959 under a contract with Morrison-Knudsen Afghanistan. Relative to Goal C, the same contractor has prepared a report on all repairs and rehabilitation required to make the Seraj Canal system, originally established about 25 years ago, capable of ultimately serving some 63,000 acres, of which about 35,000 acres are now settled. Under Goal D the same contractor has completed all engineering, including plans and specifications, for a complete irrigation and drainage system capable of serving about 20,000 acres. Training under Goal E has been generally provided.

Contract negotiations with Morrison-Knudsen Afghanistan for the completion of Goals C and D were conducted in June and July 1959, but the Royal Government of Afghanistan chose to do the work with their own Afghan Construction Unit (ACU). The U.S. Bureau of Reclamation was invited to Afghanistan to assist the ACU and HVA with the planning and implementation of this project. A member of the Bureau of Reclamation spent several weeks in Afghanistan during late June and early July making a preliminary study. The Bureau's Commissioner and the proposed Chief of Party arrived in December 1959 to study the problem. The Commissioner returned to the United States while the proposed Chief of Party stayed to make a more complete study before making recommendations.

FINANCIAL OBLIGATIONS

Through June 30, 1960

ICA	\$2,834,000 (including \$700,000 loan)
RGA	\$ 806,000 equivalent (13,104,000 afghanis and 864,000 Pak Rupees)

EXPENDITURES

Cumulative to December 31, 1959

ICA	\$1,700,000
RGA	\$ 806,000 equivalent

WORK REMAINING

An agreement must be completed with the Bureau of Reclamation to provide technical and operational assistance to enable the Operation and Maintenance Division of HVA and the ACU to fulfill the functions formerly carried out by Morrison-Knudsen Afghanistan. This will also involve the retention or replacement of technicians formerly supplied by MKA plus some additional technicians. When this reorganization is accomplished, the remaining detailed engineering work required for the Seraj Canal may be completed and procurement of off shore commodities may begin. As concerns the South Branch of the Tarnak Canal, procurement can begin when ACU is able to assume this function. Construction can be undertaken when reorganization is completed.

PROBLEMS

Two basic problems have been considered by ICA and HVA in connection with the proposed work on the Seraj. The first concerns the capacity of the Seraj system. The goal has been to have the system serve some 60,000 acres, believed to be the net potential irrigable acreage. Only 35,000 acres, however, are presently under irrigation. The primary reason for giving the Seraj higher priority than it was given in the Tudor Mission Report (where it is a recommended Phase II activity), is to forestall the damage to present cultivation that would occur without rehabilitation. It is necessary, therefore, to consider whether or not this rehabilitation should be limited to the area serving the 35,000 acres presently under cultivation. Further study and engineering design are required. It is assumed that this work will be done jointly by ACU, HVA, and the U.S. Bureau of Reclamation.

There are salt and drainage problems in the Seraj area, and little organized drainage work has been done.

As concerns the Tarnak, there is a land tenure problem. A considerable area was formerly irrigated periodically from the Tarnak River and from about 50 karez (man-made underground channels). There appear to be some fairly large holdings in the proposed area.

Getting drains established before salt damage occurs remains a problem. Another big problem involves whether or not further irrigation development should be postponed until drainage is accomplished on a project-wide basis.

HELMAND PUBLIC HEALTH AND SANITATION

Project 306-53-023

Project Director: Mr. Mohammed Hashim Safi
Project Technician: Mr. John C. Bell

INTRODUCTION

Project Description and Rationale

The Helmand Valley Authority is building at Lashkar Gah a public health training hospital and is developing public health and sanitation facilities in the Valley. ICA participation in this work has mainly been in providing equipment, materials, and supplies, in preparing plans and specifications; and in sending participants abroad for training.

The hospital when completed will serve as a center of public health activities for the Helmand Valley and a training institution for public health and sanitation personnel to benefit the whole country.

History

From late 1953 to late 1955 environmental sanitation work was carried on at Girishk and Nad-i-Ali. For a few months in 1955 and 1956 a U.S.-sponsored public health physician attempted to organize and carry on project activities.

Through a contract with Pacific Architects and Engineers, ICA provided HVA with mechanical and electrical plans and specifications for the Lashkar Gah hospital-clinic, based upon building plans provided by the USOM architect.

PROJECT GOALS

A. Complete and equip by 1962 the hospital-clinic and public health building being constructed by the HVA at Lashkar Gah. This involves the provision of architectural and mechanical engineering services, and commodities and equipment to make the training center functional.

B. Provide training for Afghan doctors and other medical personnel for the hospital-clinic and for public health and sanitation.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

By December 31, 1959, the HVA completed 80% of the building construction of the hospital-clinic.

Some clinical equipment that ICA financed in previous years has been used, and some is stored awaiting completion of the building.

One Afghan doctor is studying in the United States under this project; public health programs will be advanced upon his return.

FINANCIAL OBLIGATIONS

Through June 30, 1960

ICA		\$ 141,001
RGA	Afghanis	4,260,000
PL 480 (wheat) funds-Afghanis		6,000,000

EXPENDITURES

Cumulative to December 31, 1959

ICA		\$ 104,687
RGA	Afghanis	N.A.

WORK REMAINING

The building construction at the hospital-clinic, exclusive of mechanical equipment installation, will be completed within the last quarter of calendar 1960. Mechanical equipment for installation in the hospital-clinic is to be procured, including equipment for the following systems: water supply, sanitation, heating, electric and air-conditioning. If ICA funds are made available, these materials will be procured sometime after June 1960.

The one Afghan doctor studying in the United States will return in June 1961. The village and rural development phase of the project has been discontinued, but the HVA is still engaged in this work.

PROBLEMS

Mechanical equipment for the hospital-clinic will be needed very soon, earlier than planned. This element of the project has not yet been funded, and the proposal is to provide additional funds beginning July 1, 1960. The logistic problem is especially acute in Afghanistan, with a considerable time lag between the date of the proposed funding and the delivery of goods.

Installation of the mechanical equipment when it arrives requires the services of a fulltime professional mechanical engineer, probably a foreign national, and would consequently involve foreign exchange expenditures by RGA.

It is possible that the non-profit organization called MEDICO will play a role in the operation of the hospital-clinic once it is functioning. Also, the extent to which this facility will provide training for public health people outside the Helmand Valley is yet to be determined.

HELMAND VALLEY AUTHORITY DEVELOPMENT OPERATIONS

Project 306-99-050

Project Director: Dr. Abdul Kayeum
Project Technician: Mr. George B. Woods

INTRODUCTION

Project Description

An agreement between the Helmand Valley Authority (HVA) of the Royal Government of Afghanistan and ICA was signed initially on June 25, 1959. This project primarily involves multiple activities of an advisory nature encompassing the Helmand Valley Authority's planning, management, and operational functions.

History and Rationale

Following the expenditure of large amounts of capital upon land and water resources development in the Helmand Valley over a number of years, the need remained for technical assistance to bring this investment into full productivity and to plan future development. This project is aimed at providing such assistance. After the original project agreement was signed, a private contractor was sought to carry out the major advisory goals but without success. In 1959 an agreement was entered into with the Bureau of Reclamation of the U. S. Department of the Interior to initiate these advisory services. These services will assist the HVA to meet its objectives as outlined in the project goals described below, and lead to more rapid economic, agricultural and social development of the Helmand Valley area.

There is a direct relationship between this project and others being carried on by ICA and the RGA in the Helmand Valley, especially 306-12-053 Helmand Irrigation Construction & Survey, and 306-99-056 Helmand Resources Development. The Bureau of Reclamation technicians will work in the planning and operation of these latter projects. Policies developed by those working under this project will give direction to and should materially advance the technical operations within the Helmand Valley.

PROJECT GOALS

Assist HVA officials:

In the formulation of policies and programs for land and water resources development and utilization in the Helmand Valley;

In the planning, supervision and inspection of construction of irrigation works and land development operations as they are being carried on in the Helmand Valley by the Afghan Construction Unit (ACU) ;

In the planning and supervision of a program directed to the settlement of agrarian families on irrigated lands;

In the improvement of the HVA administrative organization, management and fiscal operations;

In the establishment and operation of a motor vehicle and light equipment repair and maintenance shop at Lashkar Gah and in the training of Afghan personnel for the shop; and

In the establishing of handicraft and other small industries in the Helmand Valley area.

ACCOMPLISHMENTS
DEFINING CALENDAR YEAR 1959

The Bureau of Reclamation of the Department of the Interior undertook to provide three advisors in FY 1960 to review the current RGA-ICA project proposals for the Helmand Valley, analyze existing alternative proposals for implementing the projects and recommend the best plan and course of action to achieve the goals now described in general terms in this project and above-mentioned related projects. In calendar year 1959, the Commissioner of the Bureau of Reclamation visited the Helmand Valley, and the Bureau sent two consultants at different times to Afghanistan to survey the situation. Among these was the technician who was selected to head the BuRec team.

The Public Administration Service (PAS) of Chicago has provided two specialists, one in accounting and one in organization and management, under contract since the spring of 1958. During 1959 these specialists helped HVA install and operate a new accounting and budget system which the RGA adopted in 1959, and they are providing in-service training in various management functions in accordance with a survey of HVA's organization and management, which these technicians completed prior to 1959.

ICA provided in 1959 one technician to advise on a small motor vehicle and light equipment repair and maintenance shop, and to provide limited in-service training. Plans have been made for building, equipping, and operating a motor vehicle workshop for all HVA vehicles and light equipment excepting those of ACU. Pending the provision of additional counterpart personnel and the solution of certain local problems, such as the purchase of spare parts, this technician has been transferred to project 451-39-0 5, Afghan Regional Transit Project, to assist in the proper handling of road equipment now being brought into Afghanistan for this project.

One U.S. technician advised in training courses in weaving and handloom operations. This portion of the project was abandoned in November 1959.

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FINANCIAL OBLIGATIONS

Through June 30, 1959

ICA		\$ 524,228
RGA	Afghanis	2,500,000

Planned from July 1, 1959, to June 30, 1960:

ICA		109,000
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EXPENDITURES

Cumulative to date (December 31, 1959):

ICA		\$ 218,434
RGA	Afghanis	N.A.

WORK REMAINING

The Bureau of Reclamation will continue and expand its advisory services during 1960. By March, three technicians should be on board who, in addition to assisting with present projects, will assist the HVA in determining the type and degree of additional advisory services required.

It is planned to ensure the continuity of Budgeting and Accounting activities by extending the tour of duty of the Budget and Accounting Advisor.

The HVA and the Bureau of Reclamation advisors will determine whether further managerial and financial work should be carried on by Bureau of Reclamation advisors after the PAS contract technicians depart.

A motor vehicle and small equipment workshop will be constructed when local resources are available.

PROBLEMS

The Bureau of Reclamation advisors have to determine with HVA officials the best method of implementing present projects and the specifics of additional advisory services required.

Local resources must be made available to construct the motor vehicle and light equipment repair shop.

Training programs must be planned and conducted so as to make the HVA capable of conducting its affairs with a minimum of outside assistance.

HELMAND LAND DEVELOPMENT (ACU)

Project 306-99-056 (previously 306-12-052)

Project Director: Mr. Sayyid Wahdat Shah
Project Technicians: Mr. Frederick W. Clayton
Mr. George B. Woods

INTRODUCTION

This project was inaugurated in FY 1957 to strengthen through advisory services and assistance the organization and effective operation of the Afghan Construction Unit (ACU). The ACU is an operating unit within the Helmand Valley Authority (HVA), responsible for the necessary construction, repair, and rehabilitation of irrigation facilities and the operation of such facilities and those to be built. Also included in their activities is land reclamation, to include drainage facilities. Portions of Project 052, Helmand Land Development, have been incorporated into this project.

Originally technical services were provided under a single contract, now due to terminate. The HVA with the assistance of the U.S. Bureau of Reclamation (whose services are provided under another ICA-supported project) will decide on the method by which technical services will be provided to ACU and the priority of activities that ACU should engage in.

This project also provides commodities necessary to reach the goals indicated below and spare parts to permit certain items of equipment requiring major overhaul to become operational and to maintain equipment repair facilities as an operational function.

PROJECT GOALS

A. Provide technicians, labor, construction materials, equipment, parts, and supplies for:

1. Construction of a bridge at Lashkar Gah.
2. Repair and control of seepage in the lower Boghra Canal.
3. Continuation of land reclamation work.

B. Provide foreign technicians whose major duties will be training of ACU Afghan personnel and to provide procurement services, both of which are intended to strengthen the organization of ACU.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

During calendar year 1959, twenty-one technicians were provided to ACU by the contractor presently terminating his contract. Plans and specifications for the Lashkar Gah bridge have been completed and some of the plans for the repair and control of the seepage of the lower Boghra Canal have been completed by ACU.

FINANCIAL OBLIGATIONS

Through June 30, 1960

ICA		\$2,564,700 (of which \$400,000 loan and \$100,000 grant came from project 052)
RGA	Afghanis	15,000,000
	Pak Rupees	1,572,000
	PL 480 Afghanis	3,000,000

EXPENDITURES

Through December 31, 1960

ICA		\$ 554,350 (of which \$400,000 loan and \$100,000 grant came from project 052)
RGA	Afghanis	N.A.

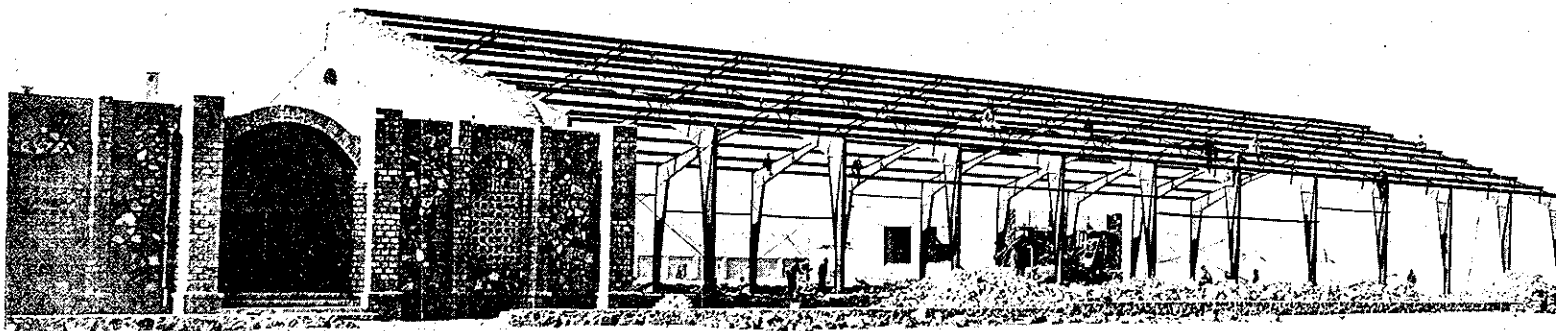
WORK REMAINING

Construction work on the Lashkar Gah bridge is to be initiated and accomplished by ACU. Commodities and supplies are to be provided for ACU through the advice and assistance of the Bureau of Reclamation and ICA. Final determination of the types of training and commodities to be supplied awaits a study to be made by the HVA and the Bureau of Reclamation, which should be completed by June 30, 1960. ICA assistance through FY 1965 is considered necessary to bring ACU to the operating level consistent with the requirements to carry on the construction program in the Helmand Valley.

PROBLEMS

There has been delay in determination of the means of providing the technical assistance required for implementation of this project. Now that the Bureau of Reclamation has been selected to advise upon implementation of this project the major problem existing has been removed.

INDUSTRY



Above: Motor Vehicle Repair Shop under construction at Kandahar.

Below: Fairchild technician viewing aerial photo negative of Afghanistan in Kandahar.



Above: Afghan workers assembling the steel - Motor Vehicle Repair Shop in Kandahar.

Below: Afghan miners unloading coal at Kar Kar coal mine.



Right: Architectural and Engineering Services project advisor, John C. Bell, shows plans for Kabul University to I.C.A. Deputy Director, Harry C. Thomas.



MINERAL RESOURCES AND COAL PRODUCTION

Project 306-21-003

Project Director: Dr. Sulton A. Popol
Project Technician: Robert T. Davis

INTRODUCTION

Project Description and Rationale

The Mineral Resources and Coal Production Project began in 1951 and provided for (1) advisory services to the Afghan Ministry of Mines and Industries in solving special problems with respect to coal production and mineral exploitation, (2) training Afghan nationals in the United States and third countries, and (3) in-service training of Ministry personnel.

Afghanistan is in extremely short supply of solid fuels, and it is of prime importance to the country to increase the very limited coal production in order to meet the demand for an expanding industrial economy and for the increasing use to heat homes. Mineral products can be marketed abroad.

History

On October 12, 1953, a mineral resources and coal production agreement was signed between the Ministry of Mines of the RCA and the Director of Foreign Operations Administration/Afghanistan; and the present form of agreement was signed on June 28, 1955.

During the period from February 1951 to July 1955, four U.S. Mining Engineers were supplied by the U.S. Bureau of Mines as Project Technicians. Observation trips were made to the beryl, chrome, talc, slate deposits, and other natural resources, but the majority of their time was spent in an endeavor to increase coal production and train mining personnel at Ishpushta and Karkar mines, the only active mines in Afghanistan.

Coal production at Karkar and Ishpushta coal mines has been increased as a result of project activities (September 1957 to September 1958 approximately 30,000 tons produced compared with about 10,000 tons in 1951).

During 1958, 104 trucks for hauling coal valued at approximately \$760,000 were delivered to the Ministry through ICA loan funds. Equipment valued at \$40,000 for maintenance shops at Pul-i-Khumri and Kabul has been received.

Approximately 60 tons of beryl ore has been mined and shipped for commercial sale in the United States. This was a Ministry undertaking.

Investigations were made of the talc mining and chrome deposits in Afghanistan and reports of findings were submitted to the Ministry.

As of July 1, 1959 approximately 200,000 slate roofing shingles had been produced. This was a Ministry undertaking with the advice and assistance of the USOM technician.

Some technical advice and assistance has been given by the project technicians concerning the mining of marble, salt, and other natural resources.

Two specialists in mining and petroleum law were furnished by the U.S. Geological Survey to assist in preparing draft legislation which is now being considered by the RGA.

Five trainees in mining engineering and a mining observation participant were sent to the United States, and another visited Turkey. Three driller trainees received four months of effective training in Iraq during 1959.

During November and December 1958, 98.5 miles of coal-haul road was constructed between Qala Sarkari in Darra-Suf Province and Haibak on the main Kabul Mazar-i-Sharif road. This was a Ministry undertaking in cooperation with local province officials and provided partial access to the Darra-Suf coal field.

Samples of coal and minerals have been sent to the U.S. Bureau of Mines and reports of analyses have been submitted to the Ministry of Mines.

PROJECT GOALS

Advise and assist the Ministry of Mines and Industries in the opening up and development of the Darra-Suf and Herat coal fields.

Assist the Ministry of Mines and Industries in the organization and management of the Ministry's trucking system and repair shops.

The project technicians work with and assist Ministry personnel in solving special problems in the production of beryl, chrome, talc, slate, marble, salt, and other natural resources. Imported mining equipment and supplies will be used as appropriate and as provided by ICA.

Training in service, on the-job, and abroad for Ministry personnel.

Provide minerals and coal sampling facilities through services of the U.S. Bureau of Mines.

ACCOMPLISHMENTS

During the past year - thru December 31, 1959 - the following has been accomplished in meeting the current project goals:

Approximately 18.5 miles of coal-haul road was constructed between Qala Sarkari and Dahn-i-Tor in the Darra-Suf coal area permitting access for prospecting and mine development in the area.

A German mechanic-technician has been provided through another project to assist and advise Ministry personnel on a part-time basis concerning the organization and management of the Ministry's trucking system and repair shops.

The Project Technician has provided assistance and advice as requested by Ministry personnel concerning resumption of mining at the beryl ore deposits, slate mining, marble mining, and development of other natural resources.

Three participants started petroleum engineering training in the United States in September 1959.

Samples of coal and beryl were sent to the U.S. Bureau of Mines and reports of analyses were submitted to the Ministry of Mines.

FINANCIAL OBLIGATIONS

Through June 30, 1959

ICA		\$1,365,213
RGA	Afghanis	10,665,000

Planned from July 1, 1959 thru June 30, 1960

ICA		\$ 167,000
RGA	Afghanis	8,170,000

EXPENDITURES

Cumulative to Date - December 31, 1959

ICA		\$ 1,262,739
RGA	Afghanis	11,690,000

WORK REMAINING

Until the end of the project scheduled for June 30, 1964, the following work remains to be done within the limits of agreed project goals and allotted funds:

Additional explorative testing and investigative work will be necessary and continued in the Darra-Suf and Herat coal fields by Ministry personnel with the advice and assistance of the USOM mining engineer. Testing equipment and supplies plus equipment for a 5,000 ton a year mine at Herat and a 20,000 ton a year mine at Dahn-i-Tor in the Darra-Suf coal area will be supplied with the FY 1960 Special Assistance funds of \$100,000. If funds for commodities of approximately \$220,000 are provided by ICA during FY 61, and additional financing as required for FY 62 through FY 64, facilities should be available and mine development obtained to produce at least 10,000 tons of coal annually in the Herat area and 100,000 tons of coal annually in the Darra-Suf area.

Some road improvements, including a bridge at Gore Darra gorge costing about afghanis 500,000, will be necessary and completed during the latter half of FY 1960.

The shop and maintenance equipment purchased with funds provided by ICA through this project will be installed at the Ministry maintenance shops at Kabul and Pul-i-Khumri during FY 60. ICA assistance to the Ministry's trucking system and repair shop installations will be further augmented during late 1960 when a manager and two shop technicians will be recruited through another project.

Because the Ministry desires to resume operations at the beryl deposits, dormant since 1957, the project technician will provide advice and assistance as requested and about \$10,000 of FY 60 Special Assistance money will be used to purchase a compressor and drills to expedite mining of beryl at the rate of 1 or 2 tons daily at the start. This equipment will also be used at the slate mining operation and coal operations when not needed at the beryl operation.

Investigative work and advice will be provided by the project technicians as requested by Ministry officials to determine the feasibility of talc mining and delivery for processing in Kabul.

Operation of the Konah Khamer slate mine may be resumed if markets are found for the slate shingles presently produced.

Additional geological testing and investigations will be undertaken before mining is started in the chrome deposits south of Kabul.

Technical assistance and advice will be provided by the project technician as requested by the Ministry concerning marble, salt, and other natural resources. These project activities will be augmented during FY 61 and until the end of the project when additional mining engineer personnel has been recruited for the project.

In-service training will be continued through association of the project technicians and Ministry counterparts. Unless on-the-job training of supervisors and miners is provided, coal and mineral production cannot be expanded. American technicians may be employed to conduct on-the-job training for miners and supervisors starting about January 1, 1961.

If ICA funds can be provided starting in FY 61, at least four participants will start mining engineer training in the United States so they will complete this training and be available for mining work by the close of the project in 1964.

In addition to the three participants that started petroleum training in the United States in September 1959, a fourth started training in January 1960, and a fifth petroleum engineer trainee is taking preliminary engineering and English training in Beirut, Lebanon, prior to transfer to the United States about June 1960. Three petroleum driller trainees may start a 2-year program during FY 60, but the training location has not been definitely determined.

During FY 60, \$1,500 of TC funds are allowed for coal and mineral sample analyses by the U.S. Bureau of Mines.

HELMAND ELECTRIC POWER

Project 306-22-041

Project Director: Mr. Ghulam Dastagir Azizi

Project Technician: Mr. John H. Sanger

INTRODUCTION

The general objectives of the project are to enhance the economic development of the region by providing necessary additional power for the Kandahar urban and industrial areas, Kandahar International Airport, and irrigation and drainage pumping. More specifically, it provides for the construction of a power plant at Arghandab Dam and for associated transmission and distribution facilities. It is related to the following other projects in which ICA is participating:

Helmand Surface and Ground Water Investigation (306-12-021)

Kandahar Industrial District (306-29-046)

Air Transportation Development (306-37-036)

Helmand Resources Development (306-69-056)

Helmand Valley Development Operations (306-99-050)

In 1952, a multiple-purpose dam was constructed twenty-four miles north of Kandahar on the Arghandab River, with pinstock opening for a future power plant. A portion of the preliminary engineering was accomplished toward the design of a power plant at Arghandab Dam and a transmission line to Kandahar. Currently, the Arghandab-Kandahar electrical development has been established as a separate project.

PROJECT GOALS AND IMPLEMENTATION

The project provides for the engineering and construction of a hydro-electric power plant and necessary associated facilities. The plant will consist of two hydraulic turbine-generators at Arghandab Dam, sized in accordance with the findings of the engineering and economic studies required. It will further include a high-voltage transmission line from the power plant to Kandahar and to the International Airport, as well as receiving stations and other facilities necessary for delivering the power and integrating the new source with the present Kandahar generation and distribution system. In addition the project provides for out-of-country training, and for on-the-job training during installation of equipment, of Afghan personnel in the operation, maintenance, utilization and management of power plant and transmission system. The Ministry of Mines and Industry will provide competent foreign personnel for key positions, including superintendent, chief operator, and maintenance foreman, to insure satisfactory operation of the facilities provided by the project, and to give on-the-job training to Afghan personnel; and will provide the staff required for full-scale operation.

ACCOMPLISHMENTS

During 1959, nothing had been accomplished in this particular project, and it transferred from the jurisdiction of the Helmand Valley Authority to that of the Ministry of Mines and Industries on December 5, 1959.

FINANCIAL OBLIGATIONS

Through June 30, 1960:

ICA

Contract Services	\$1,211,600
Commodities	<u>1,589,700</u>
Total	\$2,801,300

RGA

Afghanis	8,960,000
Pak Rupees	1,311,000

EXPENDITURES

None

WORK REMAINING

The work to be accomplished under this project is as follows:

- A. Prepare documents for the engineering contract.
- B. Let contract for complete engineering services.
- C. Under the engineering contract:

(1) Review engineering studies and surveys previously made, with particular reference to over-all plans for the Arghandab-Kandahar area power development. Make any necessary additional studies and surveys required, and update all design criteria in accordance with basic data available or obtainable since earlier engineering work was begun.

(2) Present the results of these studies to the proper agencies for decisions on the relative use of available water for irrigation and for electric power. Based on these decisions by RGA and ICA as to allocations of water for maximum benefits to agriculture and power generation, determine optimum size of hydro-electric units and other design criteria.

(3) After approval of design criteria by RGA and ICA, review, revise if necessary, and complete the engineering design work previously done for the power plant, and prepare detailed plans and specifications.

(4) After approval of plans and specifications by RGA and ICA, prepare documents for the construction contract.

(5) Let contract for construction.

(6) Supervise construction contract; and perform inspection of construction and installation of equipment, and tests for final acceptance.

(7) Establish a program for training Afghan personnel in power plant operation and maintenance, and for recruiting and indoctrinating necessary key operations personnel including superintendent, chief operator and maintenance foreman.

D. Under the construction contract:

- (1) Procure materials and equipment.
- (2) Construct power plant and associated facilities.
- (3) Install power plant equipment.
- (4) Perform on-the-job training to Afghan and foreign personnel.

E. Similarly as outlined above for the power plant and under the same engineering and construction contracts, design and construct a transmission line and terminal equipment from the power plant to the city of Kandahar, and to Kandahar International Airport.

F. Similarly, design and construct facilities for integrating the new power supply with the existing Kandahar electrical system, including necessary modernization of and extensions to the primary distribution system.

PROBLEMS

Factors which have contributed to delaying the project are:

Fundamental disagreements between the RGA cooperating agency and the contractor, resulting in non-renewal of the contract under which the project was to have been implemented.

Lack of sufficient hydrological data and other background information, to permit comprehensive studies of water use and control for multiple purposes of agricultural use, power generation and flood control.

Need to coordinate various interests involved and provide over-all plan of water utilization based on an approved engineering study and recommendation.

The steps being taken to overcome the above difficulties are as follows:

Collection of basic data and making of studies for over-all planning purposes, under projects 021, 050, and 056.

Separation of the engineering function from the construction function, for contracting purposes.

Revision of project documents.

COMMUNICATIONS TRAINING

Project 306-22-059

Project Technician: Mr. Cleo F. Shook

GOALS AND RATIONALE

In April, 1959, the Ministry of Communications requested advanced training in telecommunications in the United States for one participant. Funds in the amount of \$9,500 were obligated in 1959, and a participant was sent to the United States. Since September 10, 1959, he has been pursuing his studies, to be terminated in August, 1960.

The knowledge acquired will have a wide dissemination, since the participant will have a responsible overall position as director of telephones and telecommunications upon his return to Afghanistan.

FINANCIAL OBLIGATIONS

Through June 30, 1960	\$ 9,500
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EXPENDITURES

Through December 31, 1959	\$ 4,000 (approximately)
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WORK REMAINING

The participant will complete his one-year training by August, 1960.

ARCHITECTURAL AND ENGINEERING SERVICES

Project 306-25-049

Project Director: Mr. Sayed Burhanuddin
Project Technician: Mr. John C. Bell

INTRODUCTION

By the nature of certain developmental projects in Afghanistan, foreign architectural and engineering services are required. Specifically, the Mission Architectural Advisor provides professional architectural-engineering services to the various USOM divisions, and furnishes drafting and inspection services to implement a number of large design and construction projects where such services are not available in Afghanistan.

These activities are directly connected with the planning, design, contracting and construction of Kabul University project on a continuing basis. Other activities requiring the same services are the construction of Kandahar International Airport, Habibia College, Afghan Institute of Technology, Vocational Agriculture School, and a new country-wide primary school construction program under the Ministry of Education. Other additional activities are to survey, study and provide continued consultative and advisory services to the USOM and RGA and to include the Lashkar Gah Hospital and Training Center.

USOM architectural advisor's office has completed designs, plans, specifications, with PIO/C orders for Lashkar Gah Hospital, Motor Vehicle Workshops, and Habibia College. These projects are now under construction and require continued inspection and supervision.

None of these projects can be brought to successful completion without the provision of the necessary architectural-engineering coordinating services.

PROJECT GOALS

A. Assist and provide the Ministry of Public Works and Ministry of Education with professional architectural-engineering advisory-consultative services, planning, designing, preparation of plans, specifications, estimates, bills of materials, and supervision of building construction of certain building projects and facilities that RGA proposes to erect, including, but not limited to, structures provided under the following projects:

Air Transportation Development	306-37-036
Educational Facilities	306-69-044
Motor Vehicle Transportation	306-39-048

C-10

B. Provide architectural-engineering services to the American Embassy and the Mission.

C. Furnish architectural consulting services to the Ministry of Education on planning, design, construction and on development of country-wide school construction program, and a curriculum for the education and training of Afghan architects, draftsmen, construction engineers, and a vocational training program of skilled building construction workers.

D. Advise other Ministries and Agencies of the RGA on architectural problems.

ACCOMPLISHMENTS DURING CALENDAR YEAR 1959

A major achievement has been the signing of the contract for Kabul University construction on January 16, 1960. The architectural services included advising on the plans and specifications on which the contract was based, and the review of plans and specifications and the negotiations of the contract. Further details on the actual contract and the work involved are included in Project 044.

Architectural advisory services for the Tashkar Gah hospital and clinic, which is moving forward under another project (53-02), is continuing. The design, details, and specifications of imported commodities have been drawn up with the assistance of the architect.

The motor vehicle workshops being constructed under project 39-048 have been given architectural services under this project. Work is proceeding at both the Kabul and Kandahar workshops.

Kandahar International Airport - the project technician provides liaison and architectural consulting services for that portion of Kandahar International Airport involving construction of buildings, supervision and coordination of the work of Pacific Architects and Engineers with respect to preparation of plans, specifications, cost estimates, bills of materials, contracts and construction portions of Kandahar International Airport to be constructed under Project 37-036, Air Transportation Development, in cooperation with the Afghan Air Authority.

FINANCIAL OBLIGATIONS

Through June 30, 1959:

ICA	\$ 316,404
RGA	Afghanis 300,000

Planned from July 1, 1959 through June 30, 1960:

ICA	\$ 8,815
RGA	Afghanis N.A.

EXPENDITURES

Cumulative through December 31, 1959:

ICA	\$ 157,543
RGA	0

WORK REMAINING

The project goals will be advanced as the work proceeds in the other projects in which architectural and engineering services are required. About three years will be needed for the construction of the Kabul University. The time required for completion of the Kandahar Airport is, as yet, unknown; however, the Lashkar Gah Hospital and Clinic is expected to be completed in 1962 and the Motor Vehicle Workshops by October, 1960 in Kabul and December, 1960 in Kandahar.

PROBLEMS

There is a requirement for an additional \$7,000 for work already completed by Pacific Architects and Engineers for modifications of the electrical system in the Kabul University buildings. The Mission has been billed for this sum. In addition, commodities in the form of a Jeep station wagon and necessary drafting supplies will be required for the PA & E staff.

Further funding in addition to the \$160,000 now provided, for the services of PA & E technicians beyond the twenty-four month period will be required under this project. These services will be for the Kabul University construction to protect the interests of both USOM and the RGA as well as to supervise work performed by contractors, enforcing the requirements of approved specifications and plans.

INDUSTRIAL DISTRICT KANDAHAR

Project 306-29-046

Project Director: Mr. Ghulam Dastigir Azizi
Project Technician: Mr. H. Howard Turner

INTRODUCTION

Project Description

This is a project to provide technical assistance for developing industry in the Helmand Valley. A project agreement signed April 1957 established that much of the assistance to be provided by ICA would be in the form of contract services of an industrial engineering-management firm. A contract was signed in May 1958 with the Continental Allied Company to make a technical analysis of requirements and prepare specifications for those industries considered suitable for development. Field work was undertaken in calendar year 1958.

Rationale

The mobilization of larger amounts of private capital should assist materially in stimulating economic development and improving living standards. The establishment of an industrial park as a cooperative enterprise would help private entrepreneurs enter the industrial field and overcome difficulties which held back private industrial development. There is considerable interest in such a park among capitalists in the Kandahar area.

The task of providing electric power for new enterprises is much less acute in the area of Kandahar than in several other Afghan cities, because of Helmand Valley projects which will make hydroelectric power available. There is also an adequate water supply. Land and skilled labor are also relatively accessible in the Helmand Valley.

An industrial park under a cooperative arrangement would enable all entrepreneurs to obtain services, supplies, and facilities otherwise available only at a much higher initial cost.

PROJECT GOALS

A. Identify small industries which meet the technical, economic, and financial requirements for feasible establishments in the vicinity of Kandahar, as a means of encouraging the industrial development of the Helmand region.

B. Facilitate the establishment of small industries identified as feasible by providing:

1. Consultation services to the proposed industrial development bank regarding participation in the development of the District;

2. technical services to the Ministry of Mines and Industries in formulating plans for the establishment of the District, including utilities, services, zoning, and financial requirements;

3. technical services to businessmen, manufacturers, and investors in the preparation of specific plans for industrial and commercial enterprises in the proposed Industrial District.

C. Provide management and construction supervision services to a Park Corporation and industries, once they are established. In addition, supply technical assistant commodity support.

D. Provide training opportunities in industrial specialties, to the extent funds are available, for qualified Afghan participants in the industrial fields identified as feasible.

E. Provide, through contracts services, industrial engineering and management training on the job.

ACCOMPLISHMENTS DURING CALENDAR YEAR 1959

A. A field staff was provided under contract between the Continental Allied Company and ICA to make an initial survey of the potentialities of the small industries in the vicinity of Kandahar. The team completed the field work and presented a report July 21, 1959, to the Ministry of Mines and Industries, and the report identified eight industries suitable for development. The technical aspects of this report were accepted, while the financial aspects were left in question.

B. Towards providing training in industrial specialties, one participant was in Germany for observation and study of textile developments from March 1958 to March 1959.

FINANCIAL OBLIGATIONS

Through June 30, 1960:

ICA	\$ 99,985
RGA	Afs 50,000

EXPENDITURES

Cumulative through December 31, 1959:

ICA	\$ 88,720
RGA	Afs 6,110

WORK REMAINING

The goals of facilitating the establishment of small industries will be met after the framework and mechanism of an industrial development bank has been accepted by the RGA. A report to be prepared by an ICA-sponsored consultant sometime after March, 1960, will provide the basic framework that the RGA will consider. Foreign exchange could be made available to the park corporation and the industries from a foreign source in the form of loans with the proposed industrial development bank as the applicant for the loan.

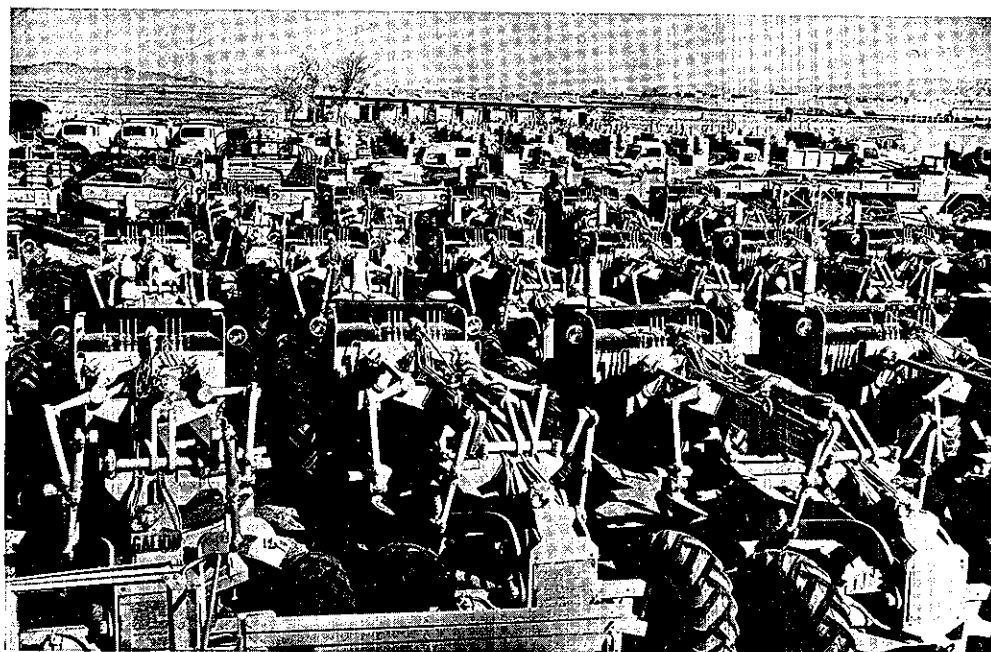
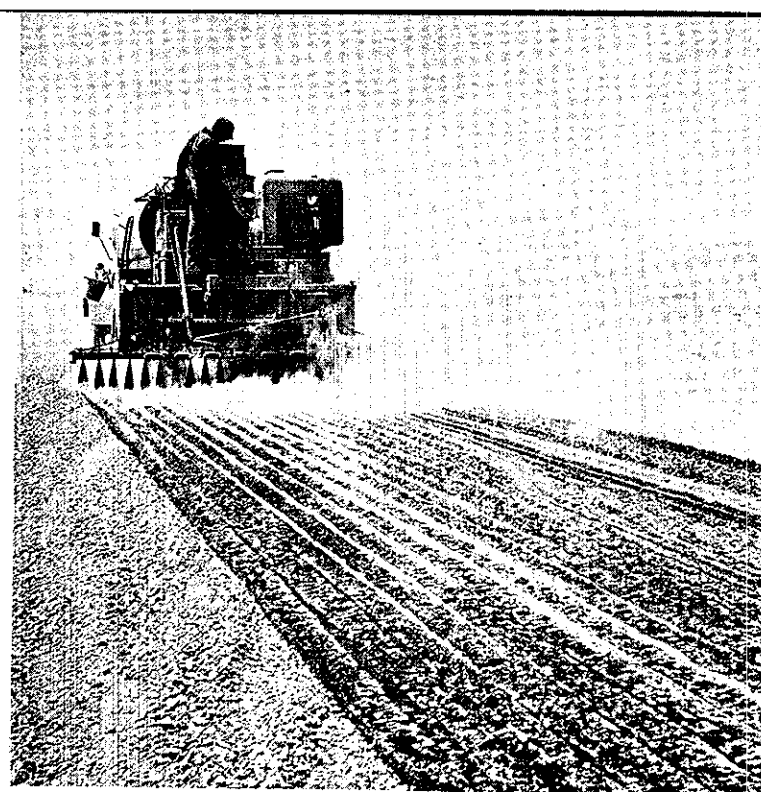
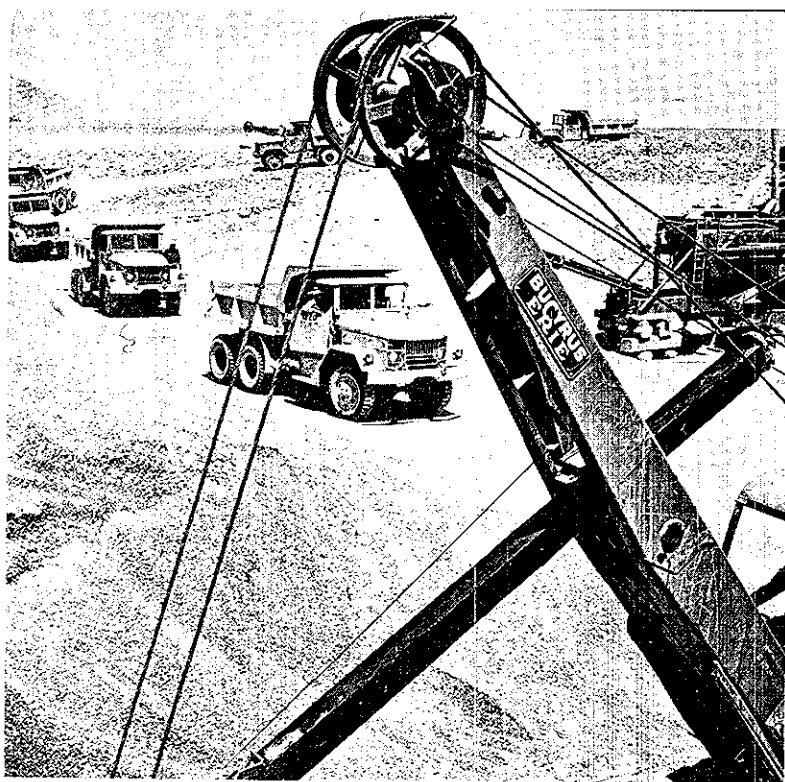
Simultaneously with the establishment of the bank, a management team will be recruited to assist in the application of the loan, the incorporation of the proposed cooperative park association, and the incorporation of the recommended industries.

Further work of the management team, dependent upon the granting of the loan of foreign exchange to the bank, will be to assist in the construction, management, and training phase of the project.

PROBLEMS

Without the acquisition of a large foreign exchange loan (approximately \$2 million) by the proposed industrial development bank, all the efforts directed to the planning of an industrial park and the surveying of feasible industries will be lost. Time is of the essence, as private Afghan entrepreneurs early in CY 1960 are showing dissatisfaction with the slowness of the project and are looking for alternative uses for their capital.

TRANSPORTATION



UPPER LEFT -- Hauling gravel for the construction of the Kabul to Torkham highway.

UPPER RIGHT -- Applying the base asphalt coat on the Kabul to Torkham highway.

ABOVE -- Equipment at Chaman which will be used for building the Kabul-Kandahar-Wish road.

RIGHT -- Afghan technician operates a crankshaft grinding machine at the Zenda-ba-Non Workshop.



AERIAL PHOTOGRAPHY AND MAPPING

Project 306-93-038

Project Director: Dr. Sultan Popal
 Project Technician: Mr. H. Howard Turner

INTRODUCTIONProject Description

This is a project to provide aerial photographic coverage of the greater part of Afghanistan, execute ground control surveys, and compile photographic mosaics and topographic contour maps of the area. Three areas are involved: The first about 77,000 square miles, the second about 60,460 square miles, and the third about 50,540 square miles. Area I is the northeastern section of Afghanistan. Area II is the central section. Both areas are primarily of mountainous terrain. Area III covers the southwestern section of the country and is principally a desert area. The Techno Export Company of the USSR is photographing approximately 82,000 square miles along the norther frontier of Afghanistan. All of the country's estimated 270,000 square miles will thus be covered.

History and Rationale

The project started in August 1957 with the signing of a project agreement between the Ministry of Mines and Industries of the Royal Government of Afghanistan, Fairchild Aerial Surveys, Incorporated, and ICA. Flying, ground control surveys, and compilation of photographic mosaics were started soon thereafter and continued to date. One RCA participant was trained in photogrammetry at Fairchild Aerial Surveys, Incorporated, Los Angeles. The services of a U. S. technician were provided to assist in the starting of the survey.

The aerial mapping project is an essential base for a proper national resources inventory. The map so produced will be a valuable aid in the economic development of Afghanistan. The aerial photography and maps produced will facilitate subsequent development of:

- Water resources
- Timber resources
- Mineral resources and geological studies
- Agricultural resources
- Transportation and civil aviation
- Archeological studies
- Census of Population

PROJECT GOALS

- A. Aerial photographic (stereoscopic) coverage of the greater part of Afghanistan and the delivery of copies of aerial photography.
- B. The execution of ground control survey.
- C. The compilation and delivery of photographic mosaics.
- D. The compilation and delivery of topographic contour maps of the area.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

A. Flying and aerial photography of all three areas was completed during the year. Areas I and II were photographed by both six-inch and twelve-inch cameras at the approximate scales of 1:60,000 and 1:30,000; and Area III with a 3.46-inch camera, at a scale of about 1:100,000. The photography in Area III was between the areas previously photographed with six-inch cameras.

B. Ground control work was completed during November 1959 in all three areas. A Shoran trilateration programme was completed. It included twelve ground stations with fifty line crossings and 6,698 line miles of Shoran-controlled grid photography (41,128 square miles).

C. Eighty-six advance copies of photographic mosaics have been delivered, mostly of Area III. Also, copies of mosaics of seven cities, at scales of 1:2,500 and 1:5,000 are in hand. More than 100,000 photographs at various scales (mostly 1:60,000 and 1:30,000) have been delivered.

FINANCIAL OBLIGATIONS

Through June 30, 1960:

ICA	\$2,300,000
RGA	\$ 600,000

EXPENDITURES

Cumulative through December 31, 1959:

ICA	\$ 936,646
RGA	\$ 300,000

WORK REMAINING

Compilation of mosaics of Areas I and II (1:50,000 and 1:100,000) and recompilation of mosaics in Area III (1:100,000) will be completed by August 1961.

Delivery of topographic map manuscripts will begin by June 1960. These manuscripts will be subject to a field completion survey which will include

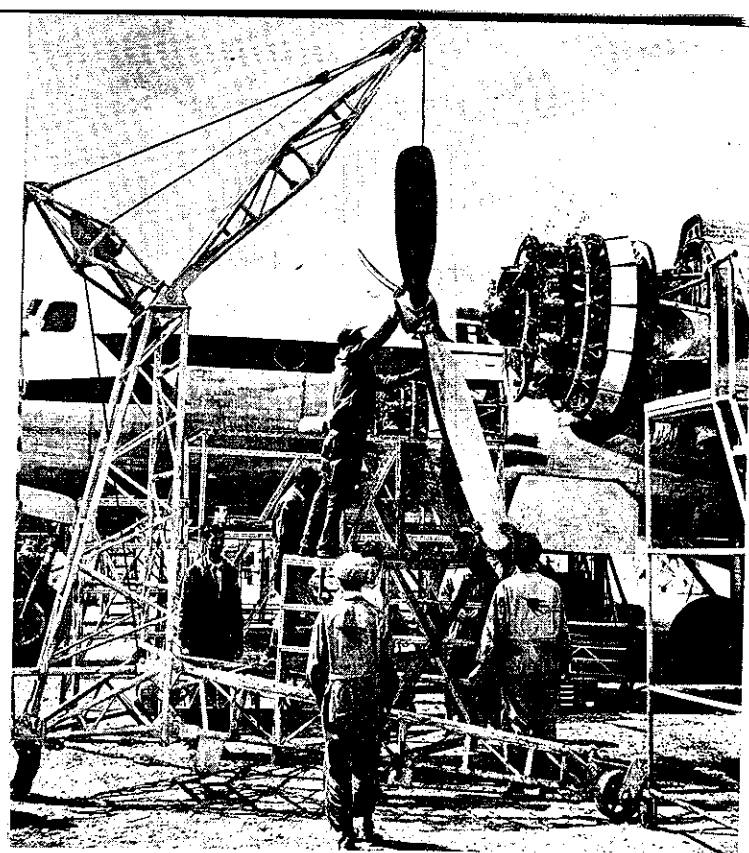
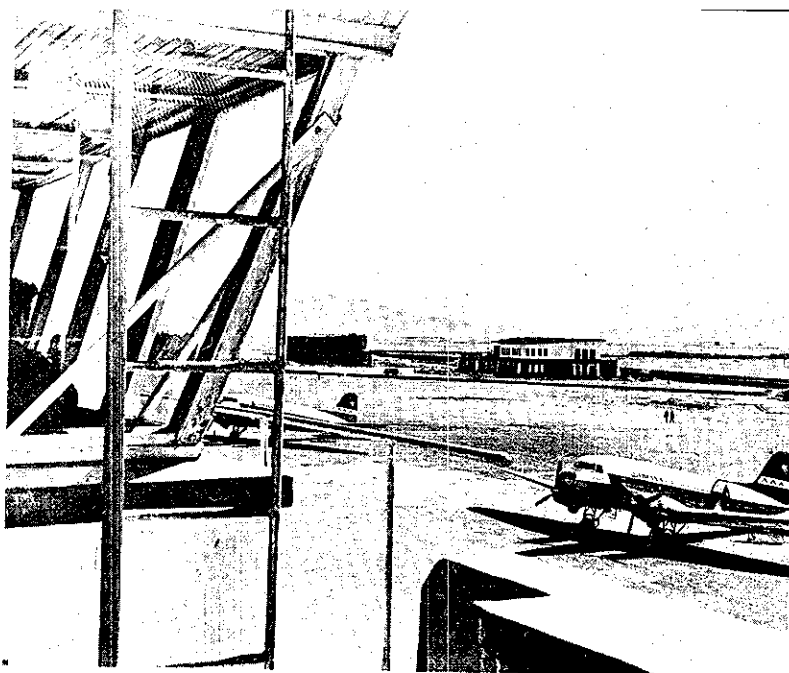
a final classification of details and the collection of geographical names.

Final topographic contour maps are to be completed at the scale of 1:50,000 by September 1962 and at the scale of 1:100,000 and 1:250,000 by December 1962.

PROBLEMS

Fairchild's final completion of the ground control programme and also the photogrammetric extension of ground control is delayed due to the absence of the data for ties to ground control established by Techno Export. The results of the tie-in surveys of four vertical bench marks and two Shoran stations are required in order to secure a common geodetic datum for the entire country.

The Ministry of Mines and Industry is at the present unable to offer complete services and take full advantage of the products provided upon the completion of the project, because of a lack of certain laboratory equipment, and to a certain extent a lack of trained personnel.

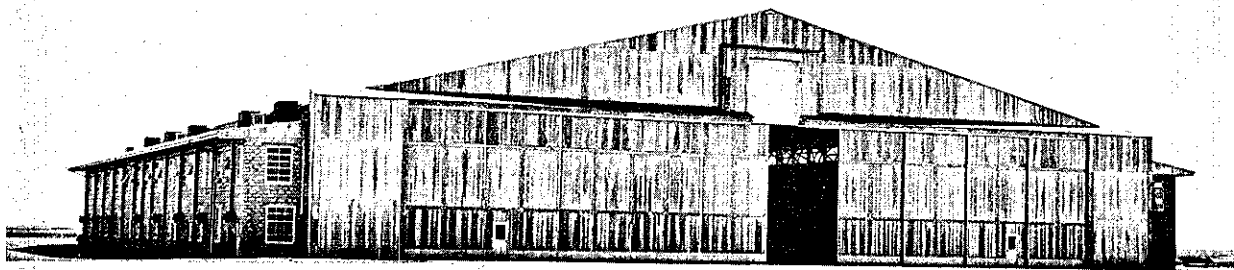


UPPER LEFT -- The newly-installed control tower at old Kandahar airport is equipped with the latest transmitting and receiving equipment.

ABOVE -- All Ariana aircraft are given frequent and thorough maintenance.

LEFT -- Students at the Afghan Air Authority Civil Aviation School in Kandahar learn typing and code.

BELOW -- This giant 50 meter by 75 meter hangar at the Kandahar International Airport will accommodate the largest commercial airplanes now in service.



NATIONAL ROADS IMPROVEMENT AND MAINTENANCE

Project 306-31-039

Project Director: Mr. Sayed Alem Shah and
Mr. Merajedine Nory
Project Technician: Mr. Frederick W. Clayton

INTRODUCTION

Description and Rationale

The National Roads Improvement and Maintenance Project has a double function. ICA assists the RGA in (1) the establishment of an effective highway system through training of Afghan personnel and cooperation with the Ministry of Public Works; and (2) in supervisory and operating assistance to the Ministry of Public Works, through a contractor, in the paving of the 150-mile highway from Kabul to Torkham. Necessary construction materials and equipment for this purpose are provided by ICA.

Afghanistan, with no access to the sea, is entirely dependent upon land and air transport for its flow of commerce. With no railroads, an improved highway system is the only practical means of providing for the ever-growing movement of heavy goods both into and out of the country as well as within its boundaries. Swift transit is necessary to a developing nation for which foreign trade is of great importance. Road construction north to the Soviet border is already well underway. This project will improve transit facilities between Afghanistan and countries which trade through the port of Karachi.

There are three important routes connecting Kabul with the outside world: (1) Kabul to Peshawar (via Torkham); (2) Kabul through Spin Baldak to the port of Karachi; and (3) Kabul to the northern border. Of the three, the paving of the first road, Kabul to Torkham, constitutes a major objective of this project. This road follows roughly the ancient trade route into Afghanistan from the east.

History

Following the signing of the original National Roads Agreement on March 3, 1957, a contract was awarded to the E. B. Steele Engineering Company to implement the goals. Their technicians have been in Afghanistan since August 30, 1957, and have been available to the Ministry for consultation, advice and assistance. In 1958, the Kabul-Torkham road paving (asphalt) job was begun.

PROJECT GOALS

The five project goals as set forth in the original agreement remain currently in effect.

- A. Establish necessary departments and divisions of a modern roads organization.
- B. Introduce modern reconnaissance, survey, design, and specification methods.
- C. Introduce essential road maintenance and construction equipment.
- D. Establish and operate a training program for engineers, equipment operators, shop mechanics and administrators, including special courses and on-the-job training.
- E. Carry on improvement and maintenance activities initially on the Kabul-Torkham road, gradually extending to other main roads.

FINANCIAL OBLIGATIONS

	<u>ICA Dollars</u>		<u>Afghanis</u>	
	<u>Grant</u>	<u>Loan</u>	<u>RGA</u>	<u>U.S.</u>
To June 30, 1959	2,338,120	1,000,000	22,700,000	
Planned from				
June 30, 1959 to				
June 30, 1960	<u>1,566,000</u>	<u> </u>	<u>24,000,000</u> ^{1/}	<u>15,000,000</u> ^{2/}
Total	3,904,120	1,000,000	46,700,000	15,000,000

Additional funds required \$800,000 after June 30, 1960

^{1/} Includes 15,000,000 of PL 480, Title II funds

^{2/} U.S.-owned "550 funds"

EXPENDITURES

	<u>Dollars</u>	<u>Afghanis</u>
To December 31, 1959	\$1,726,391	11,000,000

Thus the total dollar obligations required from the beginning to the end of the project, including the loan, will be \$5,704,120. Total afghani costs, including U.S. and RGA-owned local currency, will amount to afs. 61,700,000. The additional funds required will be for necessary asphalt (\$600,000 in addition to the \$100,000 from 1959) and other contingent funds (\$200,000) for the provision of additional machinery and the necessary spare parts.

ACCOMPLISHMENTS THROUGH DECEMBER 31, 1959

A. The contractor is actively engaged in the establishment of divisions within the Highway Department of the Ministry of Public Works. Approximately 10% of the goal was accomplished by the end of CY 1959. The divisions and the work accomplished are as follows:

1. Location and Design Division. Eleven trainees are currently working and the necessary training equipment has been provided by both the RGA and ICA. Highway design standards have been recommended, and a manual of survey standard notes has been completed. In addition, ICA-financed engineering equipment valued at \$26,700 was specified, ordered, and delivered.

2. Materials Division. Accomplishments within this division include the construction of a new laboratory building to be placed in operation pending the provision of work benches, cabinets, and light and water facilities; the completion of 64.4 miles of materials survey and design work on the Kabul-Torkham road; and the testing of highway and bridge construction materials with appropriate recommendations for use. Laboratory equipment amounting to \$33,000 was specified, ordered, and delivered.

3. Bridge Design Division. A manual was completed which has bridge design standards, design aids, and sample calculations.

4. Highway Maintenance Department. Actual maintenance work is continuing along the lines suggested by the organizational plan submitted by the RGA for men and equipment.

5. Asphalt Construction Division. An asphalt construction unit was established and is functioning very well.

6. Other Divisions. In other divisions of the highway department, questionnaires have been submitted with the intention of using the information acquired for introducing more modern operations.

B. Modern methods have been introduced, to the extent of approximately 50% of expectations. On-the-job training was conducted by E. B. Steele technicians in modern survey, design, and specifications by working on actual engineering projects. These include:

1. About 50% of the location survey was completed for the route of 13 kilometers of highway around the proposed Naghlu Dam.

2. A 60 metre arch masonry bridge was constructed over the Kabul River.

3. A preliminary survey for paving of Dar-Ula-Man Avenue was conducted and cost estimates were made.

4. A drainage survey from Sarobi to Jalalabad was completed and recommendations made.

5. Drainage and subsurface studies were made from Kabul to the Kabul River Gorge and a cost estimate submitted. This work has been about 30% completed by the construction units.

C. Towards introducing essential equipment, about \$2,433,000 worth of equipment for road construction and maintenance was specified and ordered through the U.S. General Services Administration. About 65% of the major equipment has arrived in Afghanistan, and about 90% of all equipment ordered in 1957 has arrived and been assigned.

D. Towards establishing and operating training programs, the technical training course established near Jalalabad for highway survey technicians is continuing. This has included on-the-job reconnaissance as well as drafting, materials testing, surveying, and bridge design. However, the emphasis on on-the-job training will increase with the arrival of authorized personnel and equipment.

E. A 150 mile asphalt paving project from Torkham to Kabul has begun; and 15 miles of ballast, 25 miles of crushed stone leveling course, and 24 miles of prime coat (asphalt) have been completed. Ten thousand cubic yards of crushed stone are in stockpile preparatory to final paving operation. Job conditions in 1959 indicated that more equipment and technical personnel were required to meet revised project schedules. Additional ICA technicians, equipment and commodities valued at \$1,466,000 (see above obligations) have been made available for FY 1960.

WORK REMAINING

Assistance to the Ministry of Public Works in increasing the effectiveness of its roads improvement and maintenance organization through work with Ministry personnel and through demonstration and training activities on specified roads leading from Kabul remains the fundamental purpose of the project. The progress schedule calls for completion of Kabul-Torkham paving by June 30, 1961, and it is hoped that all goals will be advanced substantially by that time. In some cases, particularly in departmental re-organization, it is difficult to determine at what stage the objectives will be achieved. Likewise, in the training of participants and counterparts, achievements are difficult to measure, although all phases of training are to be fully implemented with new personnel under the FY 1960 PIO/T.

PROBLEMS

Successful realization of the objectives set forth in the project agreement for 1960 depends upon prompt arrival of necessary additional personnel and equipment. Should delays occur as in the past, the objectives may not be achieved according to schedule.

The PIO/C for 1959 included only sufficient asphalt for 65 miles of paving from Torkham westwards, and when the PIO/C for 1960 was written, asphalt for completing the entire Kabul-Torkham paving project was not included. It is believed that about \$800,000 of asphalt, other commodities and services would be required after June 30, 1960.

Another major obstacle in introducing more modern survey and design techniques is the lack of educational background and practical experience on the part of trainees. Mathematics, for example, to the level of trigonometry is a pre-requisite for surveying; however, in many cases mathematical

background only includes arithmetic. In other phases of construction work, such as bridge design and construction, qualified candidates for training purposes are either not available or are re-employed elsewhere once training has been completed.

Finally, both technicians and commodities must become available in sufficient quantity and in time to implement all project goals. Hitherto surplus construction equipment has been sent to Afghanistan which has required extensive repairing. For this the necessary spare parts and mechanics were sometimes difficult to obtain.

Though a decision to use new rather than surplus equipment was made about eight months ago, maintenance problems will continue so long as the "excess" equipment is in operation. Additionally, procurement of spare parts, etc., especially during emergency breakdowns, must be substantially speeded up to eliminate a present major obstacle.

From the standpoint of the RGA, qualified trainees and the necessary facilities for training must be forthcoming. These personnel should be impressed with the importance of instruction and regular attendance. In addition, the materials testing laboratory, as well as the Public Works shops at Jalalabad, should be put into operation as soon as possible.

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AIR TRANSPORTATION DEVELOPMENT

Project 306-37-036

Project Director: H.E. Abdul Karim Hakimi
Project Technician: Mr. Ralph E. Meguire

INTRODUCTION

Description and Rationale

This is a project to develop within Afghanistan an efficient civil air transportation system that will provide the domestic and international services required for Afghanistan. The project provides for the further development of:

The international airport at Kandahar
Ariana Afghan Airlines Company, Limited
Afghan domestic airports
Afghan airways system
Organization and training of Afghan civil aviation personnel required by the Air Authority

Reliable air transportation will strengthen communications within Afghanistan and among the regions served by an Afghan airline, and should assist in the further development of goodwill and understanding between Afghanistan and the countries interlinked by such services. Regularly scheduled international flights now stop at Tehran, Beirut and Frankfurt and other intermediate stops. Service is frequent to New Delhi and Karachi.

History

The first air transportation development project agreement (ATD No. 1), was signed by representatives of the Royal Government of Afghanistan and the United States Operations Mission to Afghanistan on June 27, 1956. A detailed agreement between Pan American World Airways, Inc., and ICA, including concurrence from the U.S. Civil Aeronautics Board for Pan American's participation was signed on January 9, 1957.

Concurrently with the PAA/ICA negotiations, the U.S. Civil Aeronautics Administration and ICA were negotiating an inter-agency agreement for services to be performed by the CAA (now the Federal Aviation Agency). This inter-agency agreement was signed in January 1957.

In addition to the above contract and inter-agency agreement negotiations, Pan American and Ariana officials were attempting to negotiate equitable management and stock ownership agreements. Such an agreement between Pan American and Ariana was signed April 17, 1957. Negotiation of these agreements took longer than anticipated.

During the spring and summer of 1957, Pan American and Federal Aviation personnel began arriving in accordance with the staffing patterns set up for these two groups.

Immediately after the Pan American-Ariana agreements were signed, a comprehensive engineering survey of Kandahar International Airport was completed by FAA engineering personnel, and project implementation orders were hand-carried to Washington by the Afghan Project Director in order that work might begin upon this particular objective of the project.

With these documents, negotiations took place in Washington with qualified contractors on the proposed International Airport construction. In August 1957 the Afghan Project Director flew to Washington for final review and signature on September 20, 1957, of the construction contract with Morrison-Knudsen International Contractors, Incorporated.

During late 1957 and early 1958 additional engineering studies were made of domestic airport operational requirements and additional experiences were gained by Pan American-Ariana, which led to the conclusion that traffic potential of Ariana was higher than had been anticipated prior to negotiation of the original project agreement.

During the fall of 1958 preliminary negotiations were begun between representatives of the RGA and ICA to provide more comprehensive operational facilities at domestic airports than were envisioned in the original project agreement, in accordance with revised operational requirements predicated upon revised revenue potentials and engineering cost estimates.

Also during these preliminary negotiations, consideration was given to certain features at Kandahar International Airport that had been included in the original project agreement on a "subject to funds available" basis. Additional engineering and operational studies led to the conclusion that a number of these features would be minimum operational requirements for international carriers and should therefore be included in further formal negotiations between the two Governments.

During the fall of 1958 and the spring of 1959, therefore, negotiations continued between the RGA and the U.S. Government in an effort to provide Afghanistan with adequate operational facilities to meet the basic objectives of the air transportation development project. These negotiations resulted in revised operational objectives, in the light of additional engineering and traffic studies, including airline equipment studies. A new project agreement was signed on May 27, 1959, which included considerable additional financing by both Governments.

PROJECT GOALS

A. Develop a basic air transportation system within Afghanistan between specified cities of the country, for the purpose of providing reliable scheduled air service in accordance with recognized commercial standards, for passengers, airmail, and cargo.

B. Continue to develop reliable, efficient, commercially sound air transportation between Afghanistan and neighboring regions, commensurate with Afghanistan's expanding requirements for passenger and airmail services and for the export and import of commodities.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

Development of the International Airport at Kandahar

A 3200 meter paved runway, designed to handle all modern jet airliners, and a 3200 meter paved taxiway system, inter-connecting the runway with three high-speed exit turn-offs from the runway, were completed during 1959, with the exception of minor details, such as runway light fixtures hook-up and testing.

210 x 72.4 meter concrete run-up and holding pads were substantially completed at each end of the runway.

A high-intensity night lighting system was substantially completed for both the runway and its associated taxiway and high-speed turnoffs.

A very large concrete and steel hangar (50x75 meters) was completed during 1959, large enough to house any modern commercial jet airliner programmed for inter-continental traffic trunk lines.

One of the features of this very modern concrete and steel hangar is that office and shop and training space has been provided for operational requirements so that the airport can be operated during the construction of the modern international terminal building and other technical buildings. These modern lighted, and air-cooled rooms are approximately seven meters wide, and are two stories high, on each side of the longest span of the hangar, providing approximately 300x7 meters of modern offices, shops and training rooms.

A modern, graded, paved highway of approximately 9 kilometers was completed between the Kandahar-Spin Baldak highway and the international terminal site and around and beyond the modern hangar to the site of the communications station building.

Concrete ramps were completed in front of the hangar and in front of the international terminal site. These ramps are 300x100 meters of concrete eleven inches in depth.

A 210 foot non-directional beacon mast with fourteen 60 foot towers was completed by AAA crew at the transmitter site, along the northeastern side of the Kandahar-Spin Baldak highway.

A modern, very high-frequency navigational aid (the V.O.R.) was substantially completed to integrate Kandahar International Airport navigational requirements with world-wide civil aviation networks.

The compass locator building (an auxiliary navigation aid integrated into the instrument approach procedure for the International Airport) was substantially completed.

Architectural-engineering plans for the balance of construction at Kandahar International Airport were completed during 1959. These plans include such items as the international terminal building, the transmitter site buildings, the communications site buildings, a fire-fighting station, a transient housing-medical facilities building, forty houses, a warehouse-air freight-technical building, an airport water distribution system, a generating and power distribution system, an airport sewerage disposal system, and storm drainage.

Many miscellaneous supporting facilities have been designed, are under construction, or completed, such as a material testing laboratory; a materials storage area with associated offices and spare parts binning; and aviation and motor vehicle interim fuel supply systems. Fire-fighting equipment is under procurement; interim electrical power, sewerage systems, water supply systems, etc., for hangar operations and interim operational requirements, are in final stages of planning, already partially installed, or nearing completion. A complete inventory is being maintained of construction equipment, spare parts, and materials that will be required for next stages of construction. Preparations for contracting balance of all major air project construction are now under intensive coordination by ICA/W and USOM groups.

Development of Ariana Afghan Airlines Company, Limited

During 1959 the first Afghan flight commander was checked out as a flight captain for Ariana; and the first five Afghan co-pilots completed their basic training, their twin engine ratings, and their instrument flight ratings in the United States. They returned to flight duties with Ariana for further on-the-job training. The first Afghan flight stewardesses were hired by Ariana.

Ariana inaugurated flight services between Kabul-Kandahar-Beirut and on to Frankfurt, Germany, via several European countries, during the fall of 1959.

Ariana's operations had progressed from the 1957 soundly conceived policy of operating proven and economically justifiable aircraft (such as the DC-3 and DC-4 types) to the point where the Ariana Board of Directors authorized for FY 1960 the purchase of more modern, faster, pressurized, and longer-ranged aircraft.

Additional Afghan nationals received advanced instruction in the United States in pilot training; and Afghan nationals received advanced mechanical training in U. S. technical schools, so that they will be able eventually to assume increasing responsibilities for maintenance of aircraft, engines, hydraulics, electronics, electrical systems, heating and pressurization systems, propellers, brakes, flight instruments, etc.

On-the-job training continued in accounting (including cost analysis and automation of accounts receivable and accounts payable), in policies and procedures for passenger and traffic services, and in maintenance of all required airline records.

Ariana derived much non-scheduled revenue from charter flights, and obtained better utilization of engines, airplanes, and components because of the availability of spare parts and supporting equipment that recently arrived in

quantity--a result of planning, pricing, and ordering during 1957 and 1959.

Three of Ariana's DC-3s and both DC-4s were completely overhauled, modernized and refurnished during 1959.

Slow, obsolete, and potentially dangerous radio-telegraph communications were replaced by pilot-operated, very high frequency and high frequency radio-telephone communications, for air-to-ground operations.

Modern galleys and hot meals, as well as steward and stewardess services, were initiated in accordance with modern accepted flight practices on international air carriers and constantly improving, so that competition with other international carriers could be better met.

Domestic Airports

Construction plans for domestic airports' runways, taxiways, aprons, etc. were changed as a result of increased needs realized in broad technical committee reviews in 1958 and 1959, and in the flying experience of Ariana. The changing of plans caused some delay in construction.

Although major construction was delayed, the Afghan Air Authority with design assistance from the Federal Aviation Agency and assistance in procurement of electrical and plumbing supplies proceeded with planning and construction of terminal buildings.

The Herat terminal building was substantially completed during 1959, with the exception of minor items, such as the construction of the control tower, installation of electrical fixtures, etc. Most other imported commodities were installed.

The contract for the construction of the terminal building at Jalalabad was let, and footings were dug for the foundation of this modern terminal building. Plumbing and electrical supplies are being ordered.

Installation of communications-navigational packages was started at each of these two domestic airports and at Kunduz, as covered in more detail below, in the discussion of the development of an airways system.

Fire-fighting equipment was ordered for all three airports, a fire-fighting building was completed at Herat. Engineering has been completed for all three airports. Minor adjustments of the plans for the runway direction at Herat derived from more up-to-date surface-wind observations by the International Civil Aviation Organization's three-times-daily observations during calendar year 1958. The adjustment will provide additional flexibilities not thought possible under the original concept.

Electrical runway, taxiway, and ramp lighting equipment for Herat, Jalalabad, and Kunduz airports was ordered the first week in June 1959,

approximately ten days after the latest project agreement was signed by the two Governments. At the same time procurement was also initiated for well and water pumps, well casing maintenance shop supplies, and water towers. None of these commodities have yet been received. (Gasoline and diesel storage tanks and many other items are at hand, having been ordered during 1957, 1958 and 1959.)

Plans were completed for drilling and casing water wells at old Kandahar airport (at the Air Authority Civil Aviation School), at Jalalabad and at Herat in order to complete hook-up into the terminal buildings now being erected, and in order to have water for compaction and other requirements of the construction contractor, who is expected to begin construction of the runways, taxiways, ramps, etc., at the domestic airports during 1960.

Engineering for fuel requirements at all domestic airports has been completed.

Design and engineering have been completed for all supporting buildings at every domestic airport, such as engine generator buildings, fire-fighting equipment buildings, communications transmitter and receiver buildings.

The Development of an Afghan Airways System

Non-directional beacons have been erected at Kandahar International Airport, old Kandahar airport, Herat airport, and Kunduz.

They are in full operational status at old Kandahar and Herat; and at KIA and Kunduz they are awaiting the installation of transmitting generators and other equipment. The latter equipment cannot be installed at present due to the absence of available buildings for such installations. The buildings are expected to be started in the latter half of 1960 by the contractor.

The location for the 150-foot beacon has been staked out at Jalalabad and the site has been surveyed.

Permanent transmitter steel towers have been erected at:

Kandahar International Airport (over one dozen), old Kandahar airport (3), Herat airport (3), and Kunduz (3).

The first air traffic control tower has been in daily operation at old Kandahar airport for all of 1959. This operational unit has contributed to safer operations of all airlines, and is being used as an on-the-job training aid for Afghan nationals who are studying air traffic control, aviation communications, and other related subjects at the Air Authority's civil aviation school at old Kandahar airport.

The locations of the Kabul beacon and its associated localizer (to be used in conjunction with the non-directional beacon for instrument approaches at Kabul airport) have been staked out.

The site has been located and surveyed for the enroute airways station at Jabel-Seraj, which will be a let-down point after crossing the Hindu Kush south-bound from Mazar-i-Sharif and ~~or~~ Kunduz to Kabul.

Procurement of all ten enroute stations envisioned in the latest project agreement was initiated during the first week in June, 1959, within ten days after the signing of the agreement. None of these items have yet been received on the job site.

The Development of Organization and Training of Afghan Civil Aviation Personnel Required by the Afghan Air Authority.

Approximately 300 Afghan students received technical training after having received English language training for a year or more. Along with studying code transmission and reception (CW), radio-telephone (RT), the theory of radio, electrical theory, radio maintenance and repair, these students are assigned periods of on-the-job training at the old Kandahar air traffic control tower.

Training equipment has been installed in the Air Authority's civil aviation school, such as code keys, earphones and typewriters, and valuable and sensitive electronic training equipment is available to be installed shortly.

Dormitories are under construction for the support of these 300 Afghan student trainees.

Four Afghan nationals who received participant training in the United States at advanced technical schools have occupied responsible positions and are also assisting the FAA and Philippine technicians in on-the-job training and construction duties. An additional eight participants are now receiving participant training in the United States.

Aircraft flight manuals have been compiled, printed, and are in use. Organization manuals have been printed and are being translated into Farsi. Rules of the Air, Aircraft Certification and operation information have been drafted.

Thirty-five Philippine technicians under contract with ICA to assist the Air Authority under the Federal Aviation Agency supervision have installed equipment, surveyed in connection with installations, and given instruction at the Civil Aviation Training Center at Old Kandahar.

Ninety-five percent of the training supplies and commodities ordered by FAA through ICA (approximately \$150,000 worth of training items) are on hand and either installed, in bins, or are awaiting completion of dust-protected rooms for installation.

A warehouse for the Department of Civil Aviation's ICA-procured spare parts, as well as for radio maintenance, has been built by the Afghan Air

Authority. Bins have been constructed within this warehouse and parts have been catalogued. Afghan personnel are being given forms and stock control training by the Afghan Air Authority.

FINANCIAL OBLIGATIONS

Through June 30, 1959

ICA		\$ 26,672,914 (including \$5,000,000 loan)
RGA	Afghanis	204,624,470
	Pak Rupees	5,000,000

Planned from June 30, 1959 through July 1, 1960

ICA	\$ 400,000
RGA	N.A.

EXPENDITURES

Cumulative to date (December 31, 1959)

ICA	\$ 9,675,159
RGA	Afghanis 67,852,942
	Pak Rupees 2,365,508

WORK REMAINING

Kandahar International Airport

Concrete run-up and holding pads are to be completed by February 1960; and the night lighting system within the following month.

The modern high-frequency navigational aid (V.O.R.) and the compass-locator will be commissioned into service during the second half of 1960. No construction contracts have yet been awarded for construction remaining to be accomplished at KIA. (See Accomplishments Section above.) It is hoped that contracts will be finalized during the first half of 1960, and actual construction started during the last half of 1960.

Also included in the contract or contracts will be such items as: Airport and housing water supply; expansion of the terminal apron to conform to the plans for the international terminal building; installation of a sewage disposal system; installation of an airport power generating and distribution system; construction of parking areas; siting and grading and storm drainage; and construction of additional unpaved roads in housing area.

Ariana Afghan Airlines

Additional Afghans will be trained to fill positions as pilots, mechanics, radio operators, repair and maintenance specialists (for flight instruments,

for aircraft structures and systems, for engines and accessories, etc.) and as operators of commissary, passenger, airmail freight and baggage handling facilities, etc. Also they will be trained for sales and traffic responsibilities to develop revenue sources and to properly handle reservations, ticketing and enroute passenger services. Some will return during CY 1960.

Flight operations and management personnel will be trained for the many diversified and highly technical specialties that form the complex interlocking functions required to satisfactorily operate a modern transportation service, such as RT and CW communications systems, etc.

Through a long term loan, Ariana will finance and procure additional modern aircraft with their necessary spare parts, supplies, tools, and support equipment, which are programmed for the continued development of the airline, in order for it to meet generally accepted economic and operational standards. It is anticipated that pressurized aircraft can be placed in operation before the beginning of the 1960 pilgrimage to Mecca.

Domestic Airports

Construction contracts are now being prepared for all construction remaining to be accomplished at Kunduz (including the terminal building), Herat, and Jalalabad. These contracts should be finalized during the first half of CY 1960, and actual construction started during the last half of CY 1960. This work includes runways, taxiways, parking aprons and lighting systems; water supply hook-up from well to storage tanks to terminal and supporting buildings; and access roads and fuel tank installations at Herat, Kunduz and Jalalabad.

The following construction will be completed by the RGA:

Terminal building at Kunduz and Jalalabad; terminal building control tower and miscellaneous items at Herat; power houses, transmitter and receiver buildings, navigational aids buildings, and sites at Herat, Kunduz, Jalalabad, Kabul and Mazar-i-Sharif and enroute stations; and compound walls around all transmitter, receiver and navigational aids building sites, and around all operational areas of runways, taxiways, parking aprons, etc., at all domestic airports.

ICA has under procurement most of the imported plumbing and electrical commodities for fire stations, transmitter buildings and navigational aid buildings at Kabul and Mazar-i-Sharif, and has ordered most of such materials for the Afghan Air Authority's use for terminal buildings at Kunduz, Herat and Jalalabad.

Afghan Airways System

Communications and navigation equipment will be installed in the control towers at Herat, Kunduz, Jalalabad, Kabul and Mazar-i-Sharif after the terminal building and control towers are constructed.

The communications buildings at KIA will be under the large contract for construction at this airport. The buildings at Kunduz are targeted for construction during the spring of 1960 by the Air Authority.

Installation of certain comm-nav facilities already started at Kandahar International, Jalalabad and Kunduz will be completed and then tied into control towers through remoted interconnections, etc.

The ten enroute stations, including those surveyed at Jabel-Saraj and at Farah, will be sited and staked out. Towers will be erected, buildings completed, and equipment and power sources installed. Construction at Farah and Jabel-Saraj is scheduled to start in 1960.

The majority of the communications and navigational equipment required for completion of the Afghan airways system can be installed during 1960 (with the exception of equipment to be housed in the highly technical buildings to be constructed at Kandahar International under the impending large contract), provided the Air Authority provides the land sites and completes the buildings for such equipment in advance of installation crew scheduling.

The Department of Civil Aviation

Supervisory personnel requirements for Air Authority and Department of Civil Aviation are being finalized, and Afghan nationals will be selected for permanent posts in the organization. These personnel require classroom, participant and on-the-job training.

Trained Afghan manpower will be provided to operate, maintain and supervise the airways, the airports and the airline systems, including radio-telephone, radio-telegraph, and radio-teletype operations and licensing, surveillance and regulation of all aviation personnel.

Training for such supervisory personnel will be provided over a considerable span of years by classroom training at the Kandahar Civil Aviation Training Center; by participant training abroad; by on-the-job training at communications-navigation and airways installations, and at airports and terminals as they are completed.

Dormitories under construction for support of Afghan student trainees or the Civil Aviation Training Center are targeted for completion during the summer of 1960.

A complete organization plan for the Department of Civil Aviation has been drawn up for some time. Responsibilities are to be assigned according to the staffing pattern, Regulations, internal organizational instructions and manuals of operations are to be originated and where already in existence are to be revised in the light of constantly expanding and improving situations.

English language training programs will be expanded, classroom training equipment installed, and continuing technical student enrollment provided, for more effective training of an increasing number of selective students.

Continuing training will be given to warehousemen in receipt, storage and issuance of property. A property management organization will be established, perpetual inventory records for all Afghan Air Authority property established; and inventory crews further trained and qualified.

PROBLEMS

The main requirement of ICA and USOM is to complete the invitations to bid and contract documents and complete contract negotiations for the balance of construction at the Kandahar International Airport and at the Kunduz, Herat, and Jalalabad airports.

The main Ariana requirements are (1) to procure modern long-range, pressurized flight equipment before the 1960 pilgrimage operations commence, and (2) to arrange a long-term loan agreement in order to procure additional modern, pressurized airline aircraft for the domestic operations after completion of domestic airports, and for short-range regional operations to adjacent and neighboring countries.

AFGHAN REGIONAL TRANSIT

Project 451-39-025

Project Director: Mr. Merajedine Nory
Project Technician: Mr. Frederick W. Clayton (Acting)

INTRODUCTION

Description

As part of a regional plan, this project within Afghanistan will provide improved surface transportation facilities from Wish to Kandahar to Kabul. The proposal includes a road in three sections: Kandahar north, 192 kilometers; Kabul south 153.4 kilometers; and a center section of 163 kilometers. Also envisioned is an extension of the railroad from Wish, Afghanistan to a point 97 kilometers east of Kandahar, and paving the road from Wish to Kandahar.

History and Rationale

In May 1957 ICA contracted with the firm of Koebig & Koebig, Consulting Engineers, to undertake an engineering and economic reconnaissance of connecting surface transportation facilities between Afghanistan and Pakistan. The principal objective was to determine the necessary steps to improve and link together the connecting transportation systems of the two countries. The work was completed in the fall of 1957, and the firm's report was accepted in principle by the Royal Government of Afghanistan and the Government of Pakistan. ICA entered into separate projects with the two governments to implement the report.

In December 1958 ICA selected a contractor, the Ken R. White Engineering Company of Denver, Colorado, to perform engineering services with the approval of the RGA Ministry of Public Works, and the necessary implementing documents were submitted to ICA/W for action.

Within Afghanistan, the improvements of certain principal surface transportation arteries is essential for economic development in the fields of agriculture, industry, commerce, and trade, as it will link the country with world markets and thereby promote the import and export commerce of the country. The nearest ocean outlet is the port of Karachi.

PROJECT GOALS

Pave the present highway from Wish, Afghanistan, to Kandahar, including a bridge over the Tarnak River.

Rebuild, surface, and pave the road from Kandahar to Kabul in accordance with modern engineering design to a width sufficient for two traffic lanes.

Construct a railroad extension from Wish to a point 97 kilometers east of Kandahar and to construct necessary railroad terminal facilities.

Survey, design, and pave the main Kandahar city street from the Herat Gate to a point west of the Governor's mansion.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

The Ken R. White Company, the engineering contractor, has been in the field since March 1959. This contractor has accomplished the following:

On the road from Wish to Kandahar, the survey of approximately 105 kilometers was completed on July 1, 1959, including testing of the present surface. A materials survey was completed. Foundation investigation of the proposed Tarnak River bridge was made. Completed plans of the Wish-Kandahar project were submitted to ICA/W for review on November 23, 1959 and to the RCA's Ministry of Public Works in February 1960. These were approved by the Ministry.

On the road from Kandahar to Kabul, a complete reconnaissance was made. Under a sub-contract with Hunting Aerial Surveys, Limited, this road was photographed in the period June through August 1959. Horizontal and vertical ground control in connection with this photogrammetry was completed on November 7, 1959. Preliminary designs based on this work were rapidly developed during the rest of the year. The complete materials reconnaissance was made, with all laboratory work completed, by December 31, 1959. All bridge soundings were completed by December 31, 1959.

FINANCIAL OBLIGATIONS

Through June 30, 1960

ICA		\$ 18,993,000
RCA	Afghanis	80,360,000
	(PL 480)	25,000,000

EXPENDITURES

Cumulative to date (December 31, 1959)

ICA		\$ 1,094,374
RCA	Afghanis	1,000,000

The ICA total of \$1,094,374 is distributed as follows: Contract Services \$360,377, and Commodities \$733,997.

WORK REMAINING

On the Wish-Kandahar road, now that design has been completed, the actual construction can be started. This will involve:

Construction contracts for paving the road and the Tarnak River bridge. The contract is expected to be advertised on February 26, 1960. On the Kandahar-Kabul road, the design of the road from Kabul to Ghazni is to be given first priority, and it is expected to be submitted to ICA/W by June 1960.

The road from Kandahar to a point 192 kilometers north will be given second priority. Following these, the road design from the latter point to Ghazni will be started.

The building of the complete road from Kandahar to Kabul will involve construction contracts for each section of the road discussed above.

The road from the West end of the Kandahar-Wish project will be designed early in 1960 and will be constructed by the same contractor as for the Kandahar-Wish paving. It is approximately eight kilometers long.

The railroad extension and the railroad terminal facilities remain to be designed and built.

PROBLEMS

A letter of intent to begin work and to continue work has been in effect from February 1959 to the present. Currently under this agreement, dollar financing for the Ken R. White Consulting Engineers, Incorporated is limited to \$780,000. The contract has been signed by the contractor and is now being reviewed by the RGA and ICA (March 1, 1960).

Arrangements have yet to be worked out for construction of the railroad extension.

MOTOR VEHICLE TRANSPORTATION

Project 306-39-048

Project Director: Mr. Abdullah Yaftali
Project Technician: Mr. Cleo F. Shook

INTRODUCTION

Project Description and Rationale

As a part of the national effort of Afghanistan to improve and modernize the entire transportation system, a project agreement was signed in June 1957 to provide dollar funds on a loan basis to assist the RGA in purchasing additional trucks, buses, spare parts, and to construct modern vehicle repair facilities in Kabul and Kandahar to maintain these trucks and buses.

History

The project technician arrived in December 1957 and began preparation of equipment lists. More definite plans were made for the project when the RGA director was appointed in January, 1958. Also, at that time, the decision to turn over the construction and operation of the Kabul workshops to the Afghan Motor Service and Parts Company was made.

The same company, the Afghan Motor Service, had already begun construction of its own motor repair shop at Zenda-ba-Non. The foundations and most of the walls were completed and plans and designs were developed for the roof structure, utilizing the services of a German engineer. These plans were taken over by the USOM/A and further developed. A contract for completion of the facility was let to A. Heinneman Company of Rendsburg, Germany.

Finally, the RGA through the Afghan Government Monopolies began arrangements for another workshop in Kandahar. Adequate land was purchased and plans were developed by USOM/A for the construction of the workshop and the assembly plant. Imported building material in the form of prefabricated structural members for the roof and supporting wall columns, steel windows, plumbing, electrical material, and fixtures were ordered. Tools and machines, were also ordered to equip the assembly plant and workshop.

PROJECT GOALS

The original goals of the project are stated to be:

- A. Improve and lower cost of motor vehicle transport in Afghanistan.
- B. Provide assistance in the purchase of trucks and spare parts.
- C. Provide assistance in the construction and equipping of vehicle repair and maintenance shops in Kabul and Kandahar.
- D. Provide assistance in improving the organization and management of the General Transport Department.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

A training program for 37 students, which started in 1958, was continued at the partially completed Zenda-ba-Non workshop. The Company agreed to provide 330,000 for machines and tools as well as 200,000 afghanis per month for the program. In June, 1959, 27 students were assigned to the regular shop from the course as learner mechanics. The program was expanded also in June to include 70 additional students and was moved into a new building. The company turned over the entire top floor of the newly completed administration building for this purpose. Four full-time employees were added to the course and six part-time teachers.

In December, 1959, a library was completed and is used extensively by the students. It is planned to further increase the course to a total enrollment of 150 students by adding thirty students for the Kandahar workshop and about twenty from other agencies.

The Company has agreed to assign one complete wing of its new building as a permanent location of the school. It is the intent to continue the school for as long as the need is present within Afghanistan.

At the present time, about 75% of the entire construction program is complete in Kabul. In December 1959, two contracts were signed by the Company for the electrical installation and one with Heinemann Company for heating and plumbing. All the major tools and machines have been delivered to the job and about 85% of the required building materials. Additional tools and machines will be ordered this year to complete the planned program, including the training course.

At the present, 443 trucks that were agreed upon have been purchased, delivered and put into service. The spare parts are being held in the Monopolies warehouse until the workshops are completed and able to handle the amounts allocated to them. The allotment is as follows: 40% (\$80,000) for Kabul workshop, to be used in service only; 20% (\$40,000) for Kandahar, to be used in service; and the remaining 40% (\$80,000) to be sold over the counter by the Monopolies to stimulate private enterprise. With the delivery of the spare parts to the shops, this phase of the project will be complete.

The RGA Monopolies have arranged for one technician from International Harvester to assist in the workshop in Kandahar. This arrangement is being made directly with this firm by the Monopolies.

In November, 1959, the advisor to the President of the Department of General Transport arrived and took up his duties. He was provided an office and supplies as well as transportation by the Department. He has been assigned for two years and was recruited by the ICA contract team, the Public Administration Service.

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FINANCIAL OBLIGATIONS

Through June 30, 1959

ICA		\$2,571,264 (including \$2,450,000 loan)
RGA	Afghanis	11,000,000
	PL 480	1,425,000

Planned from July 1, 1959

To June 30, 1960

ICA		\$ 174,000
RGA	Afghanis (PL 480)	6,000,000

EXPENDITURES

Cumulative through December 31, 1959

ICA		\$1,969,803
RGA	Afghanis	N.A.

WORK REMAINING

The entire roof construction of the Kabul Workshop is scheduled for completion about June, 1960, and the electrical and plumbing phases about the end of September, 1960. FY 1960 funding has provided for five additional technicians for the Kabul shop. These will be on a third party contract with technical support being provided by the RGA.

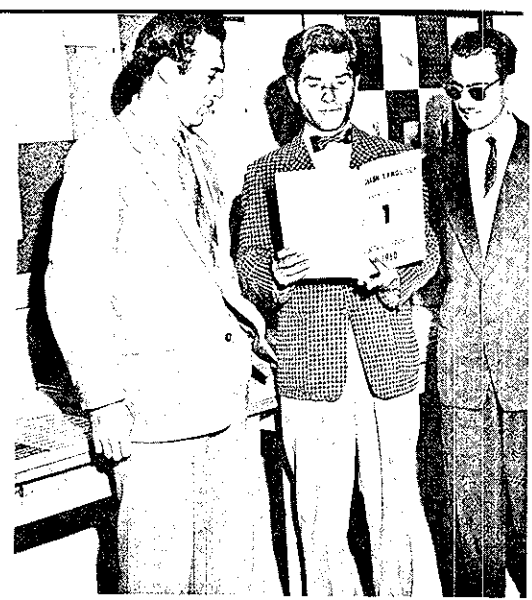
Additional funds (currently unsubobligated in other projects) will be used to provide for three additional technicians to assist the Ministry of Mines and Industry in their workshops. These also will be on the basis of third party contracts with RGA support.

There are three participants abroad now studying automotive engineering and automotive mechanics. Five more are proposed for FY 1960--two to the United States and three to Germany. The RGA has proposed names for all five positions, and it is hoped to have the students on their way before September, 1960.

PROBLEMS

ICA assistance in the form of technical assistance will continue through June, 1965, diminishing to zero in that year from a proposed strength of two direct-hire technicians and ten contract technicians. The only problem which could hold back the successful implementation of the program is the delay in off-shore procurement of necessary items. This has been a major difficulty in the past.

EDUCATION

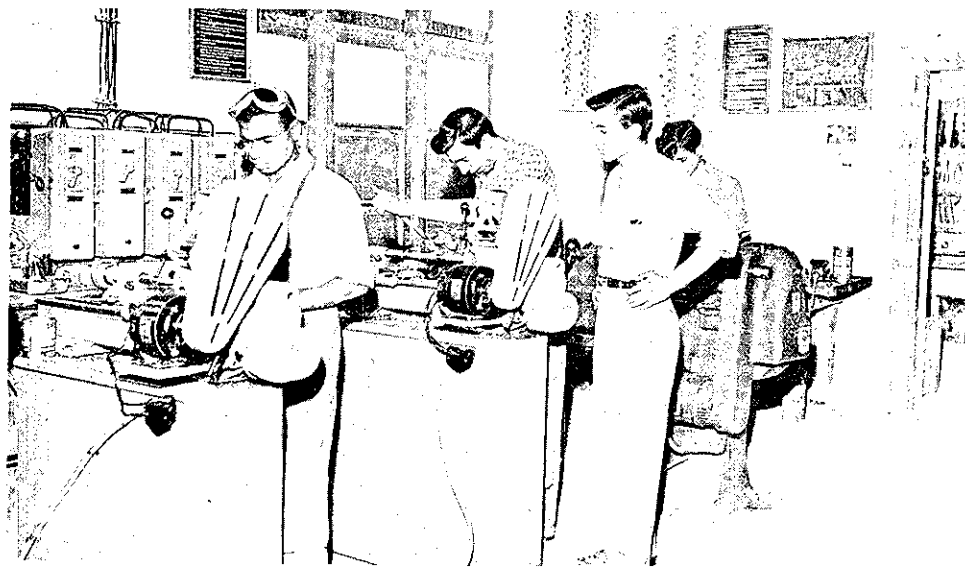


ABOVE -- Afghan English Instructors review English teaching materials at a workshop sponsored by the English Language Institute

ABOVE -- Teachers learn how to use many audio-visual aids at the Winter Workshop sponsored by the Institute of Education.

RIGHT -- Students learn the fundamentals of Electricity at the Winter Workshop laboratory school.

BELOW: Students learn how to operate many types of machines in the Afghan Institute of Technology's well-equipped machine shop.



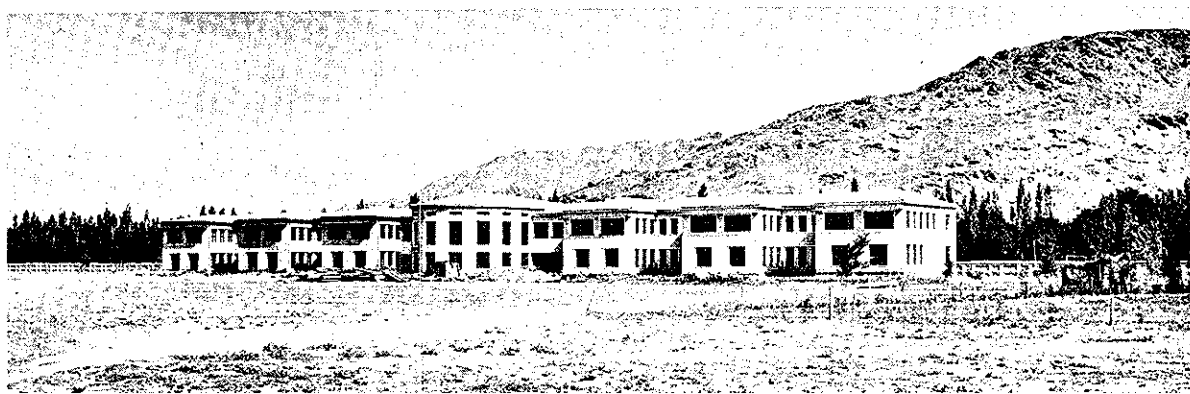


UPPER LEFT -- Mr. Stellan C. Wollmar, Director USOM/A, reads the bids submitted for the construction of Kabul University.

ABOVE -- His Excellency Mohammed Kabir, Minister of Public Works, signs on behalf of the R.G.A. the contract for the construction of Kabul University.

LEFT -- Students of the Vocational Agriculture School learn the correct method for spraying and dusting crops.

BELOW -- Building of the Faculty of Agriculture and Engineering.



HOSPITAL ADMINISTRATION (PARTICIPANT)

Project 306-53-065

Project Technician: Dr. Arthur J. Mekeel

INTRODUCTION

At the request of the Ministry of Public Works made in August, 1959, ICA is to finance the training in the U.S. of a medical doctor, principally for the administration of a Ministry of Public Works hospital in Kabul. The project was set up by ICA as a two-year program beginning in June, 1960. The first year is to be devoted to training in up-to-date medical science, to be followed by a second year of training in modern hospital administration.

PROJECT GOALS

Through this training process, the participant will be better able to administer the Ministry of Public Works hospital and be equipped to train others in up-to-date hospital administration.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

The participant is currently studying English in preparation for his two-year period of study in the United States.

FINANCIAL OBLIGATIONS

Planned from July 1, 1959 through
June 30, 1960

ICA

\$ 11,800

The RGA will provide the participant's normal salary during training.

EXPENDITURES

None

WORK REMAINING

The participant will leave in June 1960 for two years.

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AFGHAN INSTITUTE OF TECHNOLOGY

Project 306-61-007

Project Director: Dr. Mohammad Haider
Project Technician: Dr. H. Emmett Brown

INTRODUCTION

Project Description and History

This project provides assistance to the Afghan Institute of Technology, a technical high school. It is one of the several activities included in a contract with the University of Wyoming.

The Afghan Institute of Technology (AIT) was established in 1951. In the early years of its existence this Institute was supported by the Ministry of Education and by a private foreign organization known as the Afghan Institute of Technology, Incorporated. On September 1, 1954 the Foreign Operations Administration, a predecessor to ICA, signed a contract with the University of Wyoming through which the University would assist the developing of AIT. This marked the beginning of technical assistance in the present project. Formal Project Agreements in the current form, however, were first prepared and signed in FY 1956.

Rationale

Afghanistan's need for technically trained workers, in the light of the expanding program of industrial development, has been recognized by the leaders of the country for a number of years. The project places emphasis on developing courses of instruction at the Afghan Institute of Technology which will provide:

Secondary level knowledge of pure and applied mathematics and physical science;

General knowledge of tools, materials, processes and methods required in various technical fields;

Specialized knowledge of and experience with tools, materials, processes and methods which are of particular value to the individual student in his chosen technical field; and

For superior graduates, the prerequisites for entrance into the Faculty of Agriculture and Engineering of Kabul University.

PROJECT GOALS

A. Assist the Royal Afghan Ministry of Education in placing secondary technical education on a sound basis in Afghanistan in an institution fully equipped and fully staffed by Afghan personnel.

B. In the meantime, provide training at the secondary level for Afghan students in civil, electrical and mechanical technology in order to meet immediate needs for such skilled personnel in Afghanistan.

C. Prepare qualified students who will be able to meet satisfactorily the entrance requirements for the Faculty of Agriculture and Engineering.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

A. The departments are comparatively well equipped. Instruction material has been developed to coordinate with equipment on hand. The curriculum as it now stands is operating normally. Though there has been a shortage of English teachers, the students' final grades in this subject show an improvement over the previous year.

Three participants have been sent to the University of Wyoming. One participant will work for a Masters Degree in Electrical Engineering. One participant returned from the University of Wyoming with a B.S. in civil engineering and was assigned to the civil department.

One new American instructor was placed on duty in the Auto Mechanics and Machine Shop Department in September. The Project Technician finished his tour of duty in June; a replacement was assigned to duty in September. The Assistant Project Technician finished his tour of duty in November and will not be replaced. One American instructor finished his tour of duty in December.

B. Training in aeronautical, mechanical, civil and electrical technology met the planned requirements.

C. Approximately 300 students finished the school year, including 53 graduates. Of these graduates, 14 were assigned to the Faculty of Agriculture and Engineering, 7 to the Ministry of Defense, 8 to the Ministry of Mines, 4 to the Ministry of Public Works, 4 to the Ministry of Education and 16 to Civil Aviation.

FINANCIAL OBLIGATIONS

Through June 30, 1959

ICA		\$ 687,264
RGA	Afghanis	13,686,746 and \$307,200

Planned from July 1, 1959 through
June 30, 1960

ICA		\$ 163,000
RGA	Afghanis	3,316,646 and \$46,800

EXPENDITURES

Cumulative through December 31, 1959

ICA		\$ 495,191
RGA	Afghanis	N.A.

WORK REMAINING

The following remains to be accomplished:

Provide Afghan instructors in physics and mathematics.

Add practical course in foundry and welding and provide equipment for them.

Develop teaching materials for the electrical department.

Complete shops and classrooms by installing electrical supply lines and glass for windows, and supplementary equipment for the machine shop.

In order to increase the effectiveness of AIT, begin an in-service evening school program.

PROBLEMS

More training is needed in power and industrial electricity.

Auto mechanics and the machine shop should be separated for effective work.

An American instructor is required for the separate machine shop if foundry and welding are added to this department.

VOCATIONAL AGRICULTURE EDUCATION

Project 306-62-008

Project Director: Dr. Mohammad Haider
Project Technician: Dr. H. Emmett Brown

INTRODUCTION

Project Description and History

This project was designed to establish with the help of ICA-supported contract personnel a well-equipped vocational agriculture high school in Kabul, staffed by Afghan personnel, to provide personnel for agricultural organizations in Afghanistan, including the HVA, as well as to assist in the spread of agricultural education.

The Vocational Agriculture School at Kabul was established in 1925 (1302) and until the Faculty of Agriculture and Engineering opened in 1956 was the only institute in which agricultural education was given.

At first a director and few teachers were called in from France to teach primary-passed students admitted to the school as interneers. The syllabus of the school was then very elementary, but as standards of education rose in Afghanistan, terms of admission to the school were also raised; and since 1943 (1322) only those students who have passed the 9th class have been enrolled in the school.

A number of Afghan experts who had been sent abroad for higher training in agriculture returned to Afghanistan to replace foreign teachers in the school. In addition to their teaching duties, they had preoccupations in the Department of Agriculture with technical and administrative matters that eventually consumed most of their time. This resulted in a need for the Ministry again to use foreign teachers in the school.

In 1952 the Technical Cooperation Administration, a predecessor of ICA, signed a contract with the University of Wyoming to assist in developing the school. Formal Project Agreements and documents in the current form, however, were first signed for FY 1956.

In 1953 (1332) American technicians under the University of Wyoming contract arrived to assist Afghans in the operation and administration of the school. This arrangement has been continuous, but the number of Americans assigned to the school has decreased as Afghans trained in agriculture have been assigned to teach.

Rationale

Agriculture is the chief industry of Afghanistan, and the spread of agricultural education is essential to the country's development.

PROJECT GOALS

- A. Establish, on a sound basis, the vocational agriculture high school capable of graduating 80 students per year to supply the increasing demand of various Ministries and industries in Afghanistan for trained sub-professional agricultural workers.
- B. Provide vocational agriculture courses in the provincial elementary schools of Afghanistan, and assist the RGA Ministry of Education in establishing three new vocational agricultural schools in the provinces.
- C. By 1961 to prepare 30 qualified students who will satisfactorily meet the entrance requirements each year for the Faculty of Agriculture and Engineering at Kabul University.
- D. Provide training abroad, and in-service training, for agriculture teachers who will take over all teaching and administration for the Vo-Ag School and Vo-Ag schools in the provinces after Americans depart.
- E. Assist the Ministry of Education in establishing courses in basic agriculture for students in primary teacher education.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

- A. Assignment of approximately 70 students as tenth class students will provide the largest class to enroll at the school.

The instructional staff has been greatly strengthened by the return of a participant who received a Masters Degree in Agronomy in the United States. Further additions to the staff have been made by assignment of a graduate of Kabul University Faculty of Agriculture and Engineering, and a botanist who recently completed his technical education in India. Problems in English language instruction have been solved by the assignment of two full time English Teachers assigned by Teachers College, Columbia University team.

A curriculum study of the school has been made by a committee from the Afghan Ministries of Agriculture and Education. Clarifications as to courses of study have been made and submitted to the Ministry of Education for publication. Course outlines have been revised and brought up-to-date. New courses in agricultural extension education and farm management have been added to the curriculum.

Construction was begun on an addition to the building, to be completed in early 1960. This addition will provide adequate shops as well as a library-auditorium-recreation hall combination. This construction, financed by the Royal Government of Afghanistan, will release rooms previously used for these purposes for additional laboratories and classrooms. Agreements under another project (306-69-044) were signed between USOM/A and RGA allocating 3,615,000 afghanis of U.S.-owned "wheat" money for the construction of a new dormitory, dining hall, kitchen, lavatories, etc. In addition to providing more adequate

facilities for the students, this construction will permit expansion of the school and the remodeling of the present building to provide more adequate classrooms.

Complete physical inventories were completed and commodity orders placed to complete--as much as funds would permit--necessary instructional and farming aids.

B. In line with reports of ICA survey teams, the Afghan Ministry of Education plans to inaugurate three high school programs in vocational agriculture during the next Five Year Plan.

C. Fifty five students received diplomas from the school. This is 16 more students than had previously graduated in any one year. These graduates were assigned as follows:

Faculty of Agriculture and Engineering	30
Ministry of Agriculture	16
Helmand Valley Authority	8
Vocational Agriculture School (Asst teacher)	1

Assignment of thirty graduates of the Vocational Agriculture School to the Faculty of Agriculture and Engineering will assure a much larger freshman class at this institution than was possible previously.

D. One participant is studying chemistry in the United States and will return during 1960 to instruct at the school. Two other participants will complete special courses at AUB in Beirut and should return during 1960.

E. A book in Persian language was written and published to make possible some instruction in agriculture in elementary schools throughout Afghanistan.

FINANCIAL OBLIGATIONS

Through June 30, 1959

ICA		\$ 381,289
RGA	Afghanis	21,560,308
		\$ 76,000

From July 1, 1959 through June 30, 1960

ICA		\$ 92,000
RGA	Afghanis	3,260,700
		\$ 23,000

EXPENDITURES

Cumulative through December 31, 1959

ICA		\$ 294,417
RGA	Afghanis	N.A.

WORK REMAINING

The following is to be accomplished:

Preparation of additional materials for use in agricultural classes, additional study of the curriculum and revision where necessary to meet the needs of the country, and revision of school livestock and garden projects.

Completion and equipping of new buildings under construction or for which construction is planned.

Sending one participant (graduate of Faculty of Agriculture and Engineering) to the United States to study Vocational Agriculture Education. Upon his return as an instructor in the School, the School will have a complete Afghan staff.

PROBLEMS

Proper utilization, care and maintenance of ICA- and Ministry-owned equipment and supplies must be established if the life expectancy of it is to be near what could be expected in the school.

INSTITUTE OF EDUCATION

Project 306-66-018

Project Director: Mr. Ghulam Ali Karimi (Acting)
Project Technician: Dr. H. Emmett Brown

INTRODUCTION

Project Description and History

In 1949, a survey team from UNESCO made a study of education in Afghanistan at the request of the RGA. The report of this Commission stressed the importance of teacher education as a way of improving the educational program of the country. As a result of this study and subsequent work by a UNESCO specialist, the United States was asked to assist in a program of teacher education.

From the fall of 1953 onward, FOA, the predecessor agency of ICA, provided assistance to the Institute of Education and other institutions under a general service project simply called Education (06-69-019). It was from this source originally that the Teachers College, Columbia University contract was funded. The contract was signed on April 5, 1954, and the first team member arrived in the same month. Others arrived shortly thereafter.

The first Project Agreement of the present project was signed on June 28, 1955.

In 1956 a program for training Afghans to teach English was added to the program of teacher education, and Americans were provided to teach English until a sufficient number of Afghans could be trained. The work has been carried on through an Institute of Education, a part of the University of Kabul that serves as a bridge between the Ministry of Education and the University.

PROJECT GOALS

The goals as stated in the Project Agreement are listed below. To date more attention has been given to the schools for men but increasing attention is given to the schools for women.

A. Develop and implement improved programs for the pre-service and in-service education of teachers and other educational personnel of all levels of the Afghan school system. Particular attention has been and will be given to the teaching of science.

B. Train Afghan personnel for the Institute of Education, University of Kabul, and the Ministry of Education, sufficient to carry forward these improved programs of teacher education.

C. Develop an Afghan-manned program of teaching English.

D. Build a more functional curriculum for teacher education and for primary and secondary schools, including rural education, with particular emphasis upon science, agriculture, and social studies.

E. Provide American teachers of English on an interim basis until objective C., above, is realized.

F. Initiate a program of educational research designed to provide the data necessary for the development of educational policies, plans, curricula, syllabi, and textbooks.

G. Prepare appropriate teaching and learning materials for the children, youth and adults of Afghanistan and to initiate a system to continue and to extend this work.

ACCOMPLISHMENTS DURING CALENDAR YEAR 1959

The report of accomplishments follow the seven headings used above.

A. Pre-service and In-service Programs of Teacher Education

The program for pre-service teachers initiated in the previous year has continued. This has consisted of improvements in the 12th grade curriculum to include more laboratory experience, more professional courses, and a better program in agriculture and English. In-service training has also continued during winter vacations with emphasis placed on the training of Afghan teachers to better utilize these programs to improve their own techniques.

General improvements in the curricula have continued as had been previously planned.

A new program for faculty graduates who had not had professional work in education was instituted at the University of Kabul. This will be a post-graduate fifth year program and will emphasize professional education. Graduates of this program will be eligible for a master's degree after one year's additional work.

B. Afghan Personnel

The three-phase program - counterpart relations, specialized training abroad, and work as associates upon return to Afghanistan - was continued with excellent cooperation, between the Ministry of Education and the University. Eight counterparts were added during the year. Eight persons were sent to the United States and nine to the American University of Beirut for study, and four persons returned from U.S. study to fill positions in the Institute of Education, Ministry of Education and the University administrative staff.

C. Preparing Afghans to Teach English

The first class was graduated from the program in the Faculty of Letters in December, 1959. One member of the group was designated to go to the United States for additional training. Three will serve as counterparts at the Institute, including some teaching, and the remainder were assigned to teaching positions. Work continued in developing the material for the four-year program, and relating it to the new University program.

D. More Functional Curricula

General improvement in the curricula have been continued. The addition of two Afghans who had been trained in the United States to the permanent Institute staff speeded up the work in science and social studies. The program in agriculture for the primary schools was approved by the Ministry. The addition of a new specialist in rural education in December will enable the Institute to expand the work in that area.

E. English Teaching

The provision of twenty teachers of English was continued. In addition to the positions covered in the Ministry and in the Afghan Air Authority, some assistance was provided for English in the Mission Project at the Police Academy.

F. Educational Research

The specialist in Tests and Measurements has prepared a number of achievement and aptitude measures and given these to secondary and University groups. In addition, help has been given to teachers in the cooperating schools in improving their achievement measures.

In cooperation with the Statistics Office at the Ministry, detailed information about students and teachers in the schools of Afghanistan has been published.

Work is proceeding on the development of a comprehensive measure to select students for the University of Kabul.

G. Teaching and Learning Materials

The system for stimulating the writing of materials in Persian and Pashto was continued and extended through the availability of additional funds. About ten units, either books or major pamphlets were prepared during the year.

FINANCIAL OBLIGATIONS

Through June 30, 1959

ICA		\$2,622,304
RGA	Afghanis	15,923,600

Planned from July 1, 1959 through
June 30, 1960

ICA		\$ 1,195,000
RGA	Afghanis	2,225,000

EXPENDITURES

Cumulative to December 31, 1959	\$1,523,283
Afghanis	N.A.

WORK REMAINING

Sections are lettered to conform to the headings used above.

A. Prepare as many Afghans to teach the new programs as is possible by the end of December 1961, through work with Darul Mo'Allamein and the staffs of the cooperating schools. Extend the Winter Session programs for men and women to cover the full four years at the Faculty level. Provide about four workshops outside of Kabul.

B. Provide intensive training for the fifteen to twenty counterparts expected during the remainder of the Project. Send about fifteen more persons to the United States, about ten to third countries, and continue to work with thirty to forty persons at the associate level.

C. Continue the Faculty program for preparing Afghan English teachers. By the end of 1961 it is hoped at least three Afghans will be carrying major teaching responsibilities in the Faculty program.

D. In addition to continuing the work in Social Studies, Science, and Agriculture, it is hoped to make considerable progress in rural education and in home activities for women.

E. Continue to provide the services of twenty teachers of English in the positions most crucial to the program.

F. The major effort will be to validate the program for selecting candidates for the University. As much progress as possible will be made in developing the tests to select students at the end of the sixth grade. Steps will be taken to validate the current statistics selected by the Ministry. Research in various subject matter areas will be continued. Linguistic research will be expanded.

G. It is hoped that by the end of the project, about thirty additional major pieces of classroom material can be prepared. Efforts will be made to prepare Pashto editions of as much material as possible.

PROBLEMS

The chief problem is to direct current Institute activities in such a way as to make the maximum contribution to future USOM Education Projects. This requires early information on future project plans so that the staffing and the program work during the last year of this project can lay the foundation for these future projects.

FACULTY OF AGRICULTURE AND ENGINEERING

Project 306-66-028

Project Director: Mr. Ghulam Ali Yarimi (Acting)
Project Technician: Dr. H. Emmett Brown

INTRODUCTION

Project Description and Rationale

The Faculty of Agriculture and Engineering was established as an integral part of Kabul University to help meet the needs in Afghanistan for university trained graduates in the fields of agriculture and engineering. The lack of such trained personnel continues to be a serious handicap to the development of Afghanistan.

History

An agreement between the Ministry of Agriculture, Royal Government of Afghanistan (RGA) and the International Cooperation Administration (ICA) of the United States under project 306-66-028, dated February 16, 1956, and subsequently continued and amended provided assistance for the new Faculty. Beginning with a freshman class of 46 in 1956, a new class has been added each subsequent year so that enrollment increased to 118 in 1958. The forthcoming academic year will be the fifth that the project has been in operation.

PROJECT GOALS

- A. Assist the RGA in establishing a Faculty of Agriculture and Engineering at Kabul University capable of graduating a minimum of 10 students in agriculture and 15 in engineering by the end of 1961.
- B. Cooperate with the educational officials and ministries of the RGA in designing adequate curricula in agriculture and in engineering at the University level.
- C. Promote further training of some of the Faculty graduates and other qualified persons as participants in order to help build an Afghan teaching and administrative staff for the Faculty of Agriculture and Engineering.
- D. Exemplify sound teaching methods and techniques at University level and encourage Afghan associates to follow and adopt them.
- E. Assist RGA in designing and equipping classrooms and laboratories which will meet the needs of agriculture and engineering faculties.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

A. & B. Since the Faculty's establishment, March, 1956, a four-year curriculum in Agriculture and Engineering, based on the specific needs of the country, was adopted and placed in operation. Thirteen seniors were

graduated from the Faculty at the conclusion of the 1959 academic year - nine from the Agriculture division and four from the Engineering division.

C. The training of a competent Afghan instructional and administrative staff was approached in two ways: the use of available qualified Afghan personnel as associates working with American technicians, and the participant training program. During the year, four participants were sent to the United States under this program, and a fifth will leave shortly after the end of the 1959 academic year, early in January, 1960. This brings to 10 the total number being given advanced training.

D. Sound teaching methods were exemplified throughout both semesters as well-qualified, professional American technicians and Afghan associates taught the courses in English, the educational language of the Faculty. Scientific apparatus, equipment and visual aids were introduced into the teaching methodology as soon as received so as to enhance the students' learning. Additional equipment was added to the Materials Testing Laboratory housed at Afghan Institute of Technology because of space inadequacies of the Faculty's temporary quarter.

Through the cooperation of RGA ministries, officials of Ali-Abad Hospital, and the Faculty Administration, a site for an experimental and demonstration farm was secured. A program of practical work in agriculture, demonstration practices, and experimental procedures was developed for implementation at the start of the 1960 academic year.

E. Additional commodities in the amount of \$33,358.00 were ordered during the year. Scientific apparatus, equipment and supplies for a bacteriology and dairy laboratory, additional equipment for existing laboratories, more textbooks and laboratory manuals to take care of increasing enrollment, and general reference books are some of the principal items which are presently on order.

FINANCIAL OBLIGATIONS

To June 30, 1959

ICA		\$ 1,104,802
RGA	Afghanis	5,125,000

Planned from July 1959 through
June 30, 1960

ICA		\$ 660,000
RGA	Afghanis	N.A.

EXPENDITURES

Cumulative to December 31, 1959

ICA		\$ 554,239
RGA	Afghanis	N.A.

WORK REMAINING

Staffing of the Faculty:

Since one of the principal objectives of this project is to help build an Afghan administrative and instructional staff, at least two Afghans will be provided for each instructional position and one for each administrative

job. Although it is realized that there is a shortage of trained Afghan personnel, every effort will be made by the University administration to meet minimum staffing needs. This has not been done to date.

Building an Afghan instructional staff will progress as fast as the participant training program permits. Of the five participants sent in 1958, one is scheduled to return during the 1960 school year and four will return in 1961. Three sent in 1959 will return in 1961, and two are scheduled to complete their training by 1962.

Returning participants are to be assigned to the Faculty and work with American technicians for at least one school year before assuming complete teaching responsibilities. It will be of considerable value for them to gain such teaching experience through a close relationship with American professors.

Reorganization of the Faculty:

In the year immediately ahead, the Faculty of Agriculture and Engineering will be organized on the basis of two divisions: one for agriculture and one for engineering. Each division is to be departmentalized along the following lines:

Division of Agriculture:

- Department of Animal Science
- Department of Extension
- Department of Plant Science
- Experimental and Demonstration Farm

Division of Engineering:

- Department of Civil Engineering
- Department of Electrical Engineering
- Department of Industrial and Chemical Engineering
- Department of Mechanical Engineering
- Materials Testing Laboratory and Machine Shop

The above plan of reorganization is a first step toward the separation of the two divisions into separate Faculties when new buildings are completed.

A task of utmost importance confronting both the Afghan staff and their American associates will be the planning, selecting of furniture and equipment for classrooms, laboratories, and conference and study rooms in the new buildings, and supervision of its installation.

Student Body:

A plan will be adopted for selection of freshman students whose chances of completing the freshman year and continuing in the Faculty until graduation are as high as possible. Possible selective methods could include

accepting only those students with high secondary school standing and recommendations or standardized entrance examinations which every prospective student must pass satisfactorily before being accepted.

The 1960 school year will mark the introduction of seminars for junior and senior students in agriculture or engineering.

PROBLEMS

Utilities such as electrical power, plumbing, and heating must be installed and placed in operation by the start of the 1960 academic year if the classrooms, laboratories, and study rooms are to be truly functional.

A competent, properly trained, maintenance crew must be developed in order to adequately care for the building, utilities, and equipment.

It is recommended that provisions be made to have all American technicians' contracts start in January or February, or allow for an over-lap in the contract time of a departing technician and his replacement. There is also a considerable amount of time involved for selection, clearance, and final approval of prospective candidates by the Afghan and United States agencies involved. Every effort should be made to expedite these clearance procedures.

Students are not adequately encouraged to put forth their best efforts and make the most of their abilities. To accomplish this there must be incentives. Since 1958 the Faculty of Agriculture and Engineering has recognized achievements by issuing an Honor Roll at the semester's end and sending letters of commendation to those students who have not been absent during one or both semesters of the year. The University Administration should adopt an Honors Day ceremony to recognize students who have achieved a grade average of 90 percent or higher for one or both semesters of the school year.

KABUL UNIVERSITY DEVELOPMENT

Project 306-66-057

Project Director: Mr. Ghulam Ali Karimi (Acting)
 Project Technician: Dr. H. Emmett Brown

INTRODUCTION

The purpose of the project is to continue more extensively the rather limited activities outlined in another project, Kabul University Administration (68-030). This latter project revealed the need for assistance for Kabul University on a larger and broader basis. As the only post high school institution in Afghanistan, it is recognized that Kabul University is a key element in the educational structure of Afghanistan. It is furthermore essential that it be in a position to provide research and instruction in the areas needed for the development of the country.

In order to provide assistance to the University in projecting plans for its own orderly development and in implementing those plans, an advisory team of six members--four from the University of Illinois plus an ICA/W representative and an administrative secretary--was provided under another project, Kabul University Administration, 306-68-030, and was present in Kabul for three months during the summer of 1959. Their tentative report provided the basis for much of the future planning for the project.

PROJECT GOALS

The work of the Illinois Team indicated certain activity targets beyond those of the 030 project which this one replaces. Goals of this new project are the following:

A. Assist various Faculties and teaching areas of the University with respect to curricula, preparation of teaching materials, research techniques, course instruction, and training of staff members. These Faculties and areas are the following: Agriculture, Engineering, Science, Business and Public Administration, Letters, and Women's Faculty.

B. In carrying out the above, provide during the life of the project, training in the United States and possibly third countries, for faculty members, and other persons being groomed for faculty positions, as well as for some administrators, to a total of about 94 persons.

C. Provide U.S. technicians (all but two of them under a university contract or contracts) in the above fields, the library, university press, maintenance and university administration. Present projections call for up to 43 positions throughout the proposed life of the project.

D. Help provide needed text-books, periodicals, equipment, and supplies to the University to make it possible to achieve goal A.

E. Assist Kabul University in developing a University Preparatory Institute, if the University decides to establish one.

F. Develop Kabul University administration with respect to :

1. Educational administration including student guidance, activities, and records; and
2. Financial administration, including financial management, building and campus maintenance.

G. Develop the Kabul University Library system with respect to organization and management.

H. Develop a Kabul University Press with respect to organization and management.

ACCOMPLISHMENTS DURING CALENDAR YEAR 1959

The chief accomplishment has been the work of the Illinois Team referred to above. Though funded in project 030, the work of the Illinois Team has been a major achievement and is instrumental in the planning for this project.

In addition we may note that in the small FY '60 program for this project, five positions for the training of university personnel in the U.S. are provided.

FINANCIAL OBLIGATIONS

To June 30, 1960

ICA		\$ 36,000
RGA	Afghanis	N.A.

EXPENDITURES

None

WORK REMAINING

A vital next step is the further detailing of the work to be done by a University Contractor or contractors the selection of this University, and the working-out and signing of a contract or contracts. If project progress is not to be seriously impeded, this last should be accomplished before December 31, 1960.

Then follow all the actions by Kabul University and Ministry of Education officials, contractor personnel, and Mission direct-hire personnel to achieve the project objectives.

PROBLEMS

The major problem is speeding up the normally protracted contract negotiation process.

KABUL UNIVERSITY ADMINISTRATION

Project 306-68-030

Project Director: Mr. Ghulam Ali Karimi (Acting)
 Project Technician: Dr. H. Emmett Brown

INTRODUCTIONProject Description and Rationale

Kabul University, founded in 1947, is Afghanistan's only institution of higher learning. As such, its importance to the country cannot be over-emphasized. University officials recognized the need for improvement in the administration, educational planning, teaching practices, and communication to groups outside the University. To help achieve these improvements, this project was initiated in June, 1956.

History

In its original inception, the project was to improve program and administrative practices at Kabul University, chiefly through the services of one Project Technician. A University Administration Advisor and Secretary completed their duties in December 1958.

As time went on, university needs far beyond those originally contemplated were revealed. Accordingly, in the FY '59 program a Contract Team from the University of Illinois was proposed by the USOM to plan for the future development of the University.

No funds are requested for this project in FY 1960 or FY 1961. The project will terminate when the funds made available in prior years are exhausted.

PROJECT GOALS

Certain of the more restricted goals of the original project were achieved by FY 1958 and in that year the goals were re-stated as follows:

- A. Improve the administrative staff of Kabul University.
- B. Improve the relation of physical facilities to educational program.
- C. Improve the instructional administration.
- D. Improve the production and use of communications materials and equipment.
- E. Expand the services of the University to meet the technical and cultural needs of Afghanistan.
- F. By means of a University Team, to develop adequate plans for the future development of the University.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

The participant training program was chiefly characterized by continuing medical education positions. In addition, one participant (a University librarian) departed for the U.S. in August, 1959 and short-term study tours were provided for University leaders. One University professor who had studied in the field of University administration, returned from the U.S. in late 1959.

An advisory team of six persons - four members from Illinois University, an ICA/W educational representative, and a secretary- known as the Illinois Team, spent three-months in Afghanistan and prepared a lengthy preliminary report which at the close of the year was being revised, and re-worked in preparation of a final report. The report included an appraisal of the role of the University in the country, and presented a number of important recommendations.

The work of this Team provides some of the bases for the further development of Kabul University and for ICA assistance for this purpose. Such assistance will be provided, however, in another project, Kabul University Development, 306-68-057.

Thus, with the end of calendar year 1959, this project, Kabul University Administration, is virtually completed.

FINANCIAL OBLIGATIONS

To June 30, 1960

ICA		\$ 250,244
RGA	Afghanis	1,134,000

EXPENDITURES

Cumulative to December 31, 1959

ICA		\$ 170,674
RGA	Afghanis	N.A.

WORK REMAINING

Completion of the final Illinois Team report and University action on the recommendations.

EDUCATIONAL FACILITIES

Project 306-69-044

Project Directors: President Mohammed Asghar
Mr. Said Burhanuddin
Project Technicians: Dr. H. Emmett Brown
Mr. John C. Bell

INTRODUCTIONProject Description and Rationale

This is a joint RGA-ICA project principally for the purpose of constructing and equipping five buildings for Kabul University. In 1957 this project was established primarily for the provision of new buildings for the University, but included other educational facilities as well-in particular, Habibia College, the Afghan Institute of Technology, and the Vocational Agricultural School. Funding before July 1959 for the project amounted to \$1,600,000 and af\$ 35,000,000. Of the dollar total, \$125,000 was used for Habibia College and \$1,475,000 is earmarked for the University.

Afghanistan has for a considerable period sent its high school graduates abroad for higher learning. This has proven to be very expensive, and has failed to produce university graduates in sufficient numbers to meet the requirements of the country. Accordingly, in 1947, Kabul University was founded in order to provide facilities for higher education within Afghanistan. To this institution, Afghanistan must increasingly turn for its source of university graduates.

Unfortunately, classroom facilities have proven to be inadequate and poorly housed in buildings scattered throughout the city. ICA technical assistance projects have assisted the University in the establishing of a new Faculty of Agriculture and Engineering and in the development of revised administration, but the full realization of these efforts are hampered by the lack of physical facilities.

History

Although funds were made available in 1957, expenditure of both dollars and afghanis awaited completion of the plans and specifications for the university construction, made available in 1959 under another project (Architectural and Engineering Services, 306-25-049).

PROJECT GOALS

The specific goals as stated in the FY 1960 project agreements are:

A. Provide imported building materials, commodities, and equipment required for the completion, including site grading and utilities, of five buildings in Group I of Kabul University construction. These will be (1) an Administrative and Classroom Building; (2) a Library; (3) an Engineering Building; (4) a Science and Agriculture Building; and (5) an 800-student Dormitory.

B. Additionally, further assistance is to be provided in the form of construction and repair and general improvement to Darul Mo' Allamein, Vocational Agriculture School, and the Afghan Institute of Technology. It is hoped that these schools will serve as models for future educational institutions.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

A. Plans and specifications for the first five buildings of Kabul University were completed by Pacific Architects and Engineers in the fall of 1959, under another project (Architectural and Engineering Services, 306-25-049). Bids on an international basis were invited by the RGA with ICA assistance from building firms, and the lump sum contract was accordingly awarded to Hochtief A.G. of Essen, Germany. The signing of this contract on January 16, 1960 between the RGA and Hochtief marked the beginning of a new era in higher education in Afghanistan. The first phase of Kabul University (the five buildings) is scheduled for completion in 1,000 calendar days, and work has begun.

The estimated financing of these buildings is to be shared by ICA and the RGA in accordance with the following:

<u>Item</u>	<u>Total</u>	<u>ICA</u>	<u>RGA</u>	<u>Afs</u>	<u>RGA</u> (\$)
Cost of Buildings	\$6,959,000	\$3,175,400	\$1,000,000	125,262,000	(2,783,600)
Furnishings and Equipment	797,000	797,000	-	-	-
Grand Total	\$7,756,000	\$3,972,400	\$1,000,000	125,262,000	(2,783,600)

The commodities purchased for Habibia College, utilizing the \$125,000 obligated in 1957, have arrived and are stored at the construction site. This construction is proceeding under another contract between RGA and Hochtief with special assistance for imported commodities financed by ICA.

FINANCIAL OBLIGATIONS

To June 30, 1959

ICA		\$1,600,000
RGA	Afghanis	35,000,000

Planned from July 1, 1959 through
June 30, 1960

ICA		\$1,000,000
Sec. 550	Afghanis	9,612,000
RGA		\$1,000,000
	Afghanis	42,262,000
PL 480	Afghanis	49,000,000

Of this amount, \$2,475,000 of ICA contribution is to be used for costs of imported materials and equipment and 125,262,000 afghanis for local construction costs for the University. The RGA will also provide an additional \$1,000,000 (shown above) for technical services in accordance with the contract. The remaining 10,612,000 afghanis are for the three other ICA-assisted schools.

EXPENDITURES

To December 31, 1959

ICA		\$ 60,640
RGA	Afghanis	N.A.

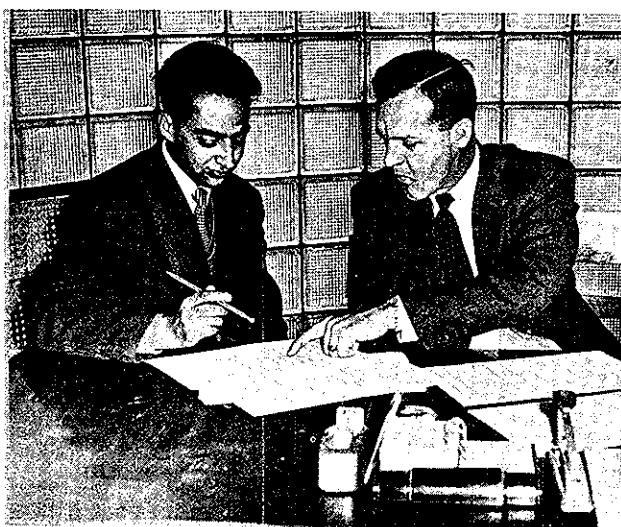
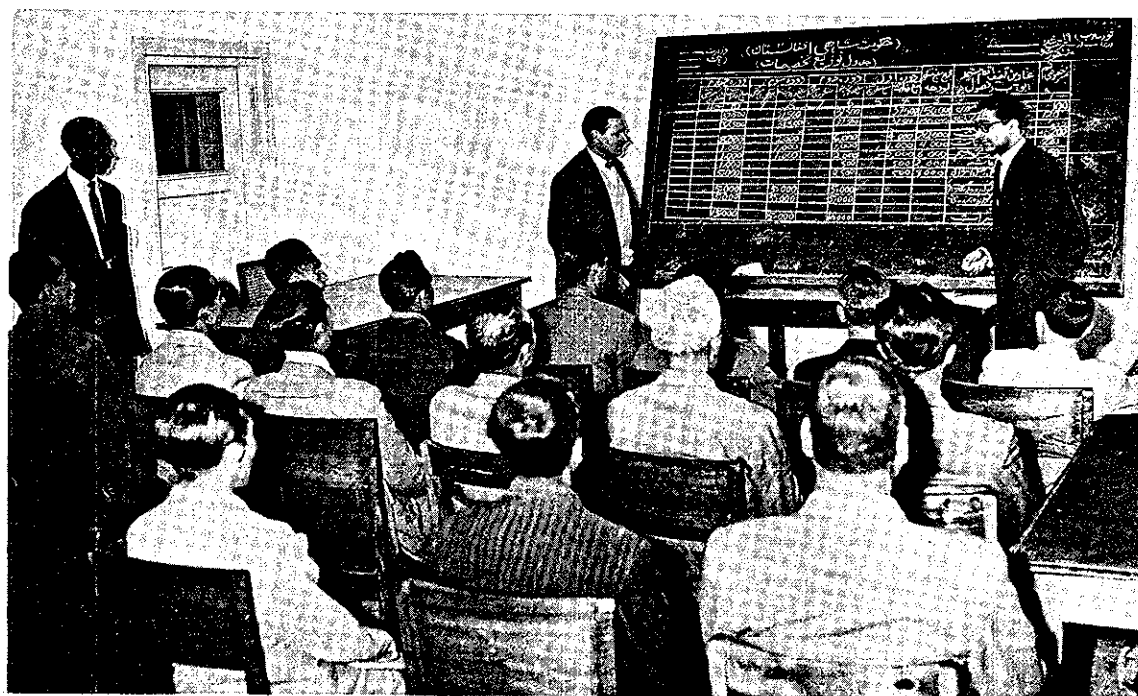
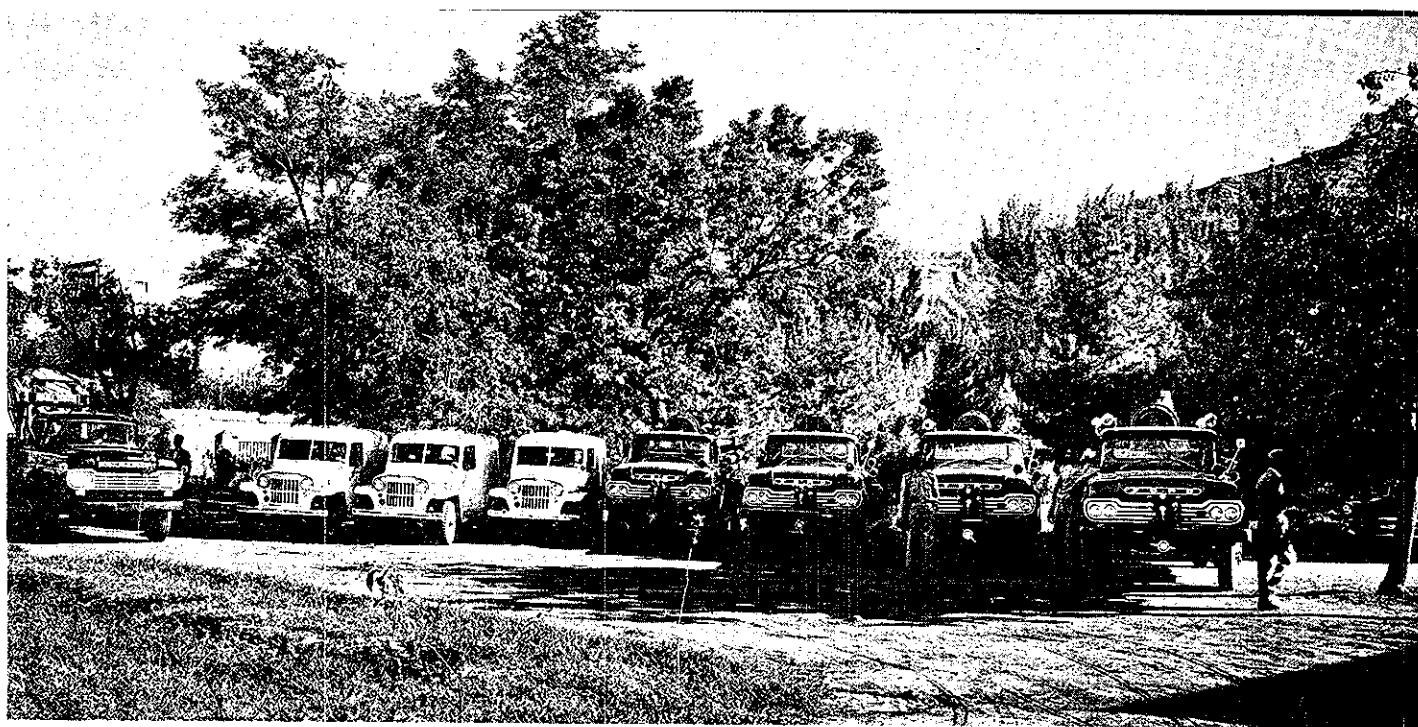
It is anticipated that ICA, subject to availability of funds, will contribute an additional \$1.5 million to this project, including up to \$797,000 for equipping and furnishing the new University buildings. No further afghani funds should be needed, since the estimated total afghani requirement for the University buildings of 125,262,000 has already been pledged.

WORK REMAINING

The remaining work is to complete the first phase of the University as outlined in the project goals.

For the other institutions, plans include the use of U.S.-owned afghanis as well as the RGA contribution for general structural improvements of the buildings. Chief among these is a 240 student dormitory for the Vocational Agricultural School, a laundry and shower unit for Darul Mo'Allamein, and wiring shops and a new wing for the Afghan Institute of Technology. All construction for these institutions is expected to be completed by November 15, 1960.

PUBLIC
ADMINISTRATION



TOP -- Fire engines, ambulances, and a tow truck are part of the equipment supplied to the Afghan Police Department.

ABOVE -- One of the classes being conducted for the employees of the Ministry of Finance.

LEFT -- Chief of the Public Administration Services team discusses new budgetary forms with his chief Afghan counterpart.

CIVIL POLICE ADMINISTRATION

Project 306-71-042

Project Director: General Mohammed Ali
Project Technician: Mr. Arthur H. Lang

INTRODUCTION

Project Description

This was a project to assist the Ministry of Interior in improving the operational effectiveness of its civil police agency through technical advice and the introduction of selected police equipment.

History

An agreement was signed June 25, 1957. A Civil Police Advisor, in Afghanistan from October 1957 to October 1958, determined the equipment needs, prepared orders for the equipment and advised as to how it should be placed in service. Orders were placed for commodities approximating \$330,000. These commodities ranged from books on police organization, photographic and scientific detection items to specialized pieces of automotive equipment. Nineteen participants spent from six months to one year in the United States receiving training.

In accordance with the proposal of the Advisor, a photographic laboratory, a fingerprint laboratory, and a certain number of rooms at the Police Security Department were set up by the Afghan Government. Certain equipment has been installed to make these facilities operative.

PROJECT GOALS

- A. To assist in the operation and maintenance of equipment and training personnel in these activities.
- B. To provide selected equipment.
- C. To train Civil Police personnel in the United States.
- D. To provide English language instruction at the National Police Academy.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

The major portion of commodities ordered have been received and turned over to the Ministry of Interior. Additional items of equipment, approximating \$50,000 which was unsubobligated from the original sum obligated, were ordered during the calendar year. Assistance was given in the operation and maintenance of the equipment received and an attempt was made to train in the use of this equipment.

Two participants, who had undergone a year's training in the United States, returned to Afghanistan and re-entered the Police Department in Kabul.

English language instruction was started at the National Police Academy for the commissioned officers, consisting of four classes of a total of approximately 140 students (two beginner and two advanced classes). The beginner classes are being taught by students at the Police Academy who have been given some teacher training know-how by the regular English instructor assigned to the Academy by the Columbia Team.

FINANCIAL OBLIGATIONS

Through June 30, 1960:

ICA	\$ 473,742
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EXPENDITURES

Cumulative through December 31, 1959

ICA	\$ 373,392
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The RCA has expended funds in the establishment and building of facilities in order that some of the equipment received could be put to use.

WORK REMAINING

A. Continuation of assistance in the effective utilization of equipment as it is received.

B. Procurement of additional equipment deemed necessary as deobligated funds become available.

C. Continuation of English language instruction at the Police Academy until the English language training can be undertaken by the Government itself.

D. Continuation of recommendations to the Ministry of Interior regarding the possibility of participants training in the United States for the following activities:

1. Police administration
2. Traffic control
3. Police training
4. Fire fighting

PROBLEMS

A. There is no Police Advisor, and the responsibility of the continuation of this project rests with the Public Administration Division. Therefore, no adequate provision is made for the complete training in the use of equipment ordered. The Public Administration Division is dependent upon other technicians in the Mission for assistance and indirectly upon the four West German

technicians employed by the RGA as instructors at the National Police Academy.

B. Some of the equipment received, due to the above, is not being utilized at the present time.

C. Two persons were recommended for participant training by the RGA but would not be sent due to ICA's policy of not sending the same participant twice.

NATIONAL FISCAL ADMINISTRATION

Project 306-75-029

Project Director: Mr. Yar Mohammad
Project Technician: Mr. Arthur H. Lang

INTRODUCTION

Project Description and Rationale

This project consists of a program of advisory services to the Ministry of Finance in general fiscal administration through a contract with Public Administration Service (PAS).

The effective conduct of the RGA's fiscal affairs is vital to the successful accomplishment of the country's economic development plans. The Ministry of Finance as the central control and coordinating agency in the fiscal area is the Ministry with primary responsibility for all phases of public finance; thus improvement efforts must originate there.

History

Specialists in the fields of General Administration, Budgeting, Revenue and Taxation, Accounting, Statistics, Cadastral Survey and Assessment arrived between April 1957 and March 1958 for two-year assignments. This group of specialists recommended new administrative and fiscal systems which were developed, submitted and approved by the Ministry of Finance. Actual installation of these systems has in several instances been accomplished or begun. Details of the new systems (forms, procedures, methods, etc.) have been developed and put into use.

The two-year contract with PAS has been extended to December 31, 1961 to permit a more complete installation of the agreed upon improvements by providing an additional two years service of the PAS team in the Ministry of Finance (five technicians plus secretarial assistance), and the contract has been expanded by six technicians.

PROJECT GOAL

To strengthen the fiscal administration of the RGA by activities within the Ministry of Finance and recommending to the RGA the institution of new policies, systems and procedures.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

Accounting Improvements - Early in January 1959 the RGA Cabinet announced its formal approval and adoption of the accounting system developed under this project. Additionally, the Cabinet instructed the Ministry of Finance to proceed with the installation of the new system so that all accounts of the central departments of the RGA would be maintained in accordance with the recommendations at the beginning of

the Afghan fiscal year starting September 24, 1959. The Cabinet's action was subsequently approved by the Parliament. Manuals and forms were prepared and distributed and a nucleus of personnel trained in each government department.

Complete plans for setting up an audit group in the Department of Accounts, Office of the Prime Minister, have been drafted and presented to the RGA.

A review of accounting practices within the Ministry of Finance was completed.

Budget Administration - The Cabinet took similar action with regard to the budget system. The installation of this system would permit the preparation of the national system for the Afghan fiscal year 1338 - 1339 according to new procedures.

The manuals and necessary forms were prepared, translated, printed and distributed. Training was undertaken so that there would be a nucleus of trained personnel in each government department.

The budget of all of the departments of the RGA for the new fiscal year was submitted and approved in the form set up.

Before the new fiscal year the Budget and Accounting Act recommended under this project was enacted into law.

In addition to legalizing the new budget and accounting systems, this law requires that payments by the RGA be made by check, and sets up one disbursement office for the entire government. Petty cash funds to be maintained in each department will be restricted as to total amount of funds and amounts that can be paid out from the funds.

Revenue Administration - During the year the former Revenue Advisor departed and one of the three revenue advisors called for under the expansion arrived.

A portion of the time of the new Revenue Advisor was spent in becoming familiar with the activities that had gone on before his arrival.

A Revenue Advisory Committee was set up in January 1959, consisting of high-ranking Afghan Government officials. Of the items discussed in the meetings of this Committee, some of the results were:

a. Setting down a specific timetable for approval and adoption of matters which are brought before the Committee. In connection with approval, a definite agreement has been reached for specific procedures to be followed.

b. Sections f. and g. of the Revenue Code, dealing with income tax administration and the duties and responsibilities of the Revenue Advisory Committee, were reviewed.

c. Preliminary review was made of Section a. of the Revenue Code to suggest simplification of this section and provisional tax rates.

d. Agreement was reached as to the establishment of a special unit to consider tax rates of foreign individuals, foreign partnerships and foreign corporations.

Statistical Services - Training was undertaken for representatives of the several ministries which collect or use statistical data. These courses include instruction in statistical methods, statistical measurement and evaluation and statistical norms.

The Statistical Advisor's tour of duty was completed during this calendar year. No plans were made to continue this activity.

General Administration - The General Administration Advisor arrived in Kabul towards the close of 1959.

The plans for the reorganization of the administrative functions within the Ministry of Finance have been transmitted to some agencies of the Government with instructions from the Cabinet that they be followed.

A general work plan has been drawn up in this area for the next six months by the Deputy Minister of Finance for Administration. The following items are included in the work plan.

- a. Installation of personnel records.
- b. Setting up and implementing property inventory systems.
- c. Installation of improved methods of handling in-and-out correspondence and storage of documents.

Counterparts and office space have been assigned to this activity.

Cadastral Survey Training - The last quarter of this year marked the end of this program. During this period field activities were conducted in the Helmand Valley.

A report was prepared for the Minister of Finance setting forth recommendations for the continuation of this activity.

Real Property Assessment Training - The first class of trainees completed the prescribed training.

A report was prepared for the Minister of Finance setting forth recommendations for the continuation of this activity.

On commodity procurement, in accordance with plans originally set up for the expansion of this project, orders were placed for approximately \$50,000 of office machines and equipment. Improved project procurement procedures were installed.

FINANCIAL OBLIGATIONS

Through June 30, 1960

ICA		\$1,355,240
RGA	Afghanis	1,600,000

EXPENDITURES

Cumulative through December 31, 1959

ICA		\$ 510,082
RGA	Afghanis	630,000

WORK-REMAINING

In each of the activity fields - budget, accounting, revenue, general administration and supply (which is to be started in calendar year 1960) - within the funds available, efforts will be made to bring about such procedural changes as lead to the achievement of the goal of strengthening fiscal administration in the RGA.

PROBLEMS

Several of the advisors provided under this project are not now financed through the entire contract period which extends until December 31, 1961.

The tour of duty of these advisors will therefore terminate prior to December 31, 1961 unless additional funds become available.

NATIONAL PUBLIC ADMINISTRATION

Project 306-79-045

Project Director: Mr. Faqir Nabi Alefi
Project Technician: Mr. Arthur H. Lang

INTRODUCTIONProject Description and Rationale

This is a program funded in FY 1959 and earlier years, limited to training a small number of selected participants in various phases of public administration in the United States or third countries. Participants are selected by those agencies of the RGA with principal responsibilities in the economic development area and approved by the Planning Ministry. It is expected that upon completion of their training they will be able to effect significant improvements in the management of essential development programs undertaken by the Government. It is expected that upon completion of their training they will be able to effect significant improvements in the management of assistance development programs undertaken by the Afghan Government.

History

An agreement was signed June 12, 1957. From that date through calendar 1958 six participants studied public and fiscal administration at the post graduate level at the University of Tehran; two studied transportation administration in the United States; one completed eighteen months of a twenty-four month program leading to a M.A. degree in international administration and law; and one has been selected and cleared for the study of banking practices in the United States.

PROJECT GOAL

To provide trained public administration and management technicians for agencies of the RGA engaged in economic development programs through a minimum participant training effort.

ACCOMPLISHMENTS
DURING CALENDAR YEAR 1959

During calendar 1959, the one participant studying international administration and law completed a 24-month program leading to a M.A. degree. The participant from the Industrial Bank, who had been selected and cleared for the study of banking practices, is still in training in the United States. His course of study was set up to emphasize industrial loan procedures. One participant left for the United States during calendar 1959 to study supply management.

FINANCIAL OBLIGATIONS

Through June 30, 1959

ICA \$ 55,534

Planned from July 1, 1959
through June 30, 1960

ICA \$ 14,000 (from deobligated funds)

EXPENDITURES

Cumulative December 31, 1959

ICA \$ 47,256

The RGA's contribution is the salary of the participants during their period of training.

WORK REMAINING

Two participants, the one studying banking practices and the other supply management, will complete their training and return to Afghanistan during calendar 1960.

Deobligated funds will be made available for participant training during the first half of calendar 1960. In the Mission's budget of fiscal year 1961, funds are being requested for a continuation of participant training under this project. This participant training will be done under a planned system whereby the needs in public administration of the various ministries will be determined, priorities set up and participants recommended for training in the United States in accordance with the needs, the priorities, and the funds available.

PROBLEMS

Difficulties have been experienced in locating fully qualified candidates for participant training in connection with the specific needs of the Government.

NON-PROJECT ACTIVITIES

The ICA Mission in Afghanistan is actively engaged in activities other than the individual projects described in this report.

Included in these activities are assistance in the form of commodity imports sold for consumption purposes, and consultation services of experts in various fields. Also, ICA regional funds support the occasional services of an entomologist (under agriculture project 306-11-002, Ministry subproject IV), and considerable participant training at the American University of Beirut, in addition to training provided under projects. The first two of these activities are discussed in detail below.

Commodity Imports

Under ICA-supported commodity activities, afghani proceeds of commodity sales are made available for projects under joint agreement between the RGA and the Mission. Hitherto, these imports have consisted of wheat under Title II of Public Law 480 and Section 550 of the Mutual Security Act of 1951. Under the 1959 program, total imports of wheat amounted to 49,151 metric tons valued at 114,768,215 afghanis. Most of these afghanis have already been allocated to specific projects.

Consultants

Experts in various fields have come to Afghanistan to study particular problems and report on their findings. In calendar year 1959, consulting activities in which ICA was involved were highlighted by the studies of four experts, one each in the fields of community development, agricultural credit, industrial development banking, and tourism.

In community development, recommendations were made, designed to assist both the RGA and the USOM/A in the planning of present and any future Community Development programs.

An agricultural credit advisor (see Agriculture project, 306-11-002, Ministry Subproject VII) made recommendations for the provision of credit facilities to farmers so that they might have the necessary capital resources for the purchase of seed, fertilizer, tools, equipment, and livestock.

Once these necessary items are made available in Afghanistan, the means of purchasing them must also be furnished before agricultural production can increase. Accordingly, an agricultural revolving fund was recommended in the report to enable these purchases to be made by farmers. A proposal has been made to implement this recommendation (under project 306-11-002, Ministry Subproject VII) using RGA-owned Title II, PL 480 funds.

An industrial development bank advisor is scheduled to visit Afghanistan in March and April, 1960 to assist in the establishment of an industrial development bank in Afghanistan. The need for such an institution has been emphasized in a report submitted upon the invitation of the RGA by Mr. Yazici, a Turkish expert in the banking field who visited Afghanistan in the spring of 1959.

Finally, a tourism expert studies the possibilities of exploiting this valuable industry in Afghanistan. His second report, submitted in July, 1959, makes many suggestions for the improvement of tourist accommodations, transport facilities, and other means of attracting tourists to Afghanistan to enjoy the wealth of natural beauty, historic wonders, and customs and folklore of the people. Among these suggestions is a Tourism Development Board to be organized and given the power of both policy making and coordination of all activities designed to encourage tourists to visit the country. The report also suggests utilizing the services of an experienced foreign tourist advisor to supplement the activities of the Board in view of Afghanistan's lack of background and experience in this valuable industry.

USOM/A CONTRACTORS

As of December 31, 1959

At the end of December, the following private firms and universities were under contract to implement ICA-supported projects:

<u>Contractor and Services Rendered</u>	<u>Current Contract Period</u>
FAIRCHILD AERIAL SURVEYS, INC. Aerial photographic surveys of most of Afghanistan to produce photographic mosaic maps (Project 306-93-038)	August 1957-Indefinite
MORRISON-KNUDSEN INTERNATIONAL CONTRACTORS Construction of taxiways, runways, hangar and facilities for minimum operational requirements at Kandahar International Airport (Project 306-37-036)	July 1959-May 1960 (est.)
PACIFIC ARCHITECTS AND ENGINEERS, INC. Completion of plans and supervision of construction for the first five-buildings at the new Kabul University site (Project 306-69-044) Completion of plans for Kandahar International Airport (Project 306-37-036)	January 1958-January 1961 January 1958-Indefinite
PAN AMERICAN AIRWAYS Technical advice and assistance to Ariana Afghan Airlines (Project 306-37-036)	January 1957-June 1962
PUBLIC ADMINISTRATION SERVICE Technical advice and assistance in fields of public administration, budgeting, taxation, etc. (Projects 306-75-029 and 306-99-050)	December 1956-December 1961
E. B. STEELE COMPANY Assistance and training to develop highway department and national road improvement and maintenance program, particularly the planning of the Kabul-Torkham road (Project 306-31-039)	October 1957-December 1960
TEACHERS COLLEGE, COLUMBIA UNIVERSITY Technical assistance to improve teacher education and strengthen instruction in English (Project 306-66-018)	June 1959-June 1961

<u>Contractor and Services Rendered</u>	<u>Current Contract Period</u>
KEN R. WHITE CONSULTING ENGINEERS, INC. Engineering and supervision of construction of that part of the Afghan Regional Transit Project within Afghanistan (Project 451-39-025)	February 1959- February 1960
THE UNIVERSITY OF WYOMING Technical assistance to the Ministry of Agriculture, Ministry of Education, Afghan Institute of Technology, Vocational Agriculture High School, Faculty of Agriculture and Engineering, and Kabul University(Projects 306-11-002, 306-61-007, 306-62-008, and 306-66-028)	June 1959-December 1961